The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[*The* MINING JOURNAL *is Registered at the General Post Office as a Newspaper, and for Transmission Abroad*]

No. 2327.—VOL. L. LONDON, SATURDAY, MARCH 27, 1880. [WITH SUPPLEMENT.] PRICE ..... SIXPENCE. PER ANNUM, BY POST, £1 4s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negociated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part:—

25 Almada.
50 Assheton, 17s. 6d.
10 Bedford United, 15s.
35 Carnarvon Cop., 22s. 6
10 Devon Consols, £12½.
25 East Crebor, 18s. 9d.
15 East Caradon, £4.
50 E. Roman Grav., 15s 3
50 Flagstaff, £2 15s.
50 Frontino, £3 10s.
25 Glenroy, 25s.
30 Grogwinion, £3 10s.
20 Herodsfoot, £3⅞.
25 Hingston Down, 20s.
100 Javali, 8s. 9d.
50 Killifreth, 22s. 6d.
20 Leadhills, £3 13s. 9d.
50 Marke Valley, £1 18 9
20 Nouveau Monde, £1¾
50 N. Penstruthal, £2¼.
50 N. D'Eresby, 20s.
60 N. Herodsfoot, 12s. 6d.
25 Pandora, £1 1s. 3d.
25 Port Nigel, £2¾.
200 Port Phillip, 9s. 6d.
50 Prince of Wales, 15s.
100 Parys Copper.
50 Pestarena, 7s.
20 Ruby, £5 8s. 9d.
20 Richmond.
5 Roman Gravels, £10⅝
50 S. Indian Gold.
10 Santa Barbara, £2½.
10 So. Condurrow, £11½.
20 South Darren, £3 7 6
20 South Crebor.
20 S. E. Wynaad, £1 12 6
100 S. Penstruthal, 14s. 6
10 Tankerville, £3 17s 6d
20 U. Van and Glyn, 16s.3
25 W. Assheton, £2 17 6
20 West Phœnix, £2⅜.
30 Wheal Crebor, £9¾.

RAILWAYS—SPECIAL BUSINESS.
FOREIGN BONDS—SPECIAL BUSINESS.
Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER,
AND MINING SHARE DEALER,
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.
RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS.
TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.
Accounts opened for the Fortnightly Settlement
A List of Investments free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

70 Almada, 12s. 6d.
40 Assheton.
25 Aberllyn, 23s. 6d.
100 Bodidris.
10 Blue Hills, £4.
50 Bedford United.
40 Blue Tent, £2 1s.
35 Canada Copper, £2½.
50 Carnarvon, 23s.
100 Consolidated, 17s. 6d.
3 Carn Brea, £85.
5 Cape Copper, £39.
10 Copiapo, £12.
10 Devon Consols, £12.
40 Derwent, £3 13s. 9d.
75 Don Pedro, 23s. 6d.
2 Dolcoath, £57.
5 East Pool, £31½.
25 East Crebor, 15s.
20 East Chiverton, £2¾.
15 East Lovell, £2½.
25 East Van.
50 East Caradon, £3⅞.
40 E. Rom. Gravels.
20 Eberhardt, £4 8s. 9d.
15 Frongoch, £5⅜.
30 Flagstaff, £2¾.
25 Frontino, £3½.
20 Grogwinion, £3½.
50 Glenroy, 25s.
5 Great Laxey, £13½.
25 Great Holway.
10 Herodsfoot, £3 16s.
50 Hingston Down, 19s.
40 Indian Glenrock, 36s.
25 Killifreth, 20s.
10 Mellanear.
20 Marke Valley, 30s.
25 No. Herodsfoot, 11s. 6
100 Nouveau Monde, 33s 6
30 New Wheal Peevor.
50 New Quebrada, £3 16 3
40 Pandora, 18s.
25 Port Nigel, £2 10s.
100 Parys Copper, 26s. 6d.
50 Port Phillip, 10s. 6d.
70 Prince of Wales, 16s 6
100 Pen-yr-Orsedd.
25 Panulcillo, £4 11s. 3d.
150 Pestarena, 8s. 6d.
15 Roman Gravels, £11.
100 Rossa Grande, 6s.
20 Richmond, £13⅝.
50 Rhydalun, £10.
25 Ruby, £5 8s. 9d.
30 South Darren, £3 8 9
50 So. East Wynaad, 32s
100 So. Indian Gold, £2.
5 Tincroft, £18½.
25 Tamar, 15s. 6d.
20 Tankerville, £5.
5 Van, £19.
10 Wh. Grenville, £8¾.
25 Wheal Sisters, £4.
50 West Phœnix, £2⅜.
10 Wheal Kitty, £5½.
100 Wheal Jewell, 20s.
40 West Assheten.
25 West Kitty, £2.
100 West Devon Consols, £2 3s. 9d.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

MR. BUMPUS devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others.

The following Mines are particularly recommended:—

WHEAL GRENVILLE. WHEAL PEEVOR. WEST PEEVOR.
NEW PEEVOR. WHEAL SISTERS. WEST PHŒNIX.
PEN-YR-ORSEDD. DERWENT. SOUTH DARREN.

WILLIAM HENRY BUMPUS, SWORN BROKER.
OFFICES: 44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

MR. J. ROSEWARNE, 3, COPTHALL BUILDINGS, LONDON, E.C.

WEST DEVON GREAT CONSOLS strongly recommended at present price—£2½ to £2¾. The adjoining Mine (Devon Great Consols) rose from £1 to £300 per share, and the general opinion is that West Devons will have a great rise very speedily. For further particulars, apply at the above address.

WANTED TO BUY—

100 Bedford United. 100 East Crebor. 100 Prince of Wales.
15 Carn Brea. 100 Gawton. 10 So. Wheal Frances.
50 Devon Consols. 50 Hingston Down. 50 Wheal Crebor.

CHARLES J. SIMS, MINE OWNER, STOCK AND SHARE DEALER, 2, DRAPER'S GARDENS, THROGMORTON STREET, LONDON, E.C.

(Late of Tavistock, Devon, the centre of the Devon Consols District.)

Special and reliable information and advice on the mines of Devon and Cornwall, and of the Llanrwst District.

Twenty-five years experience in Mining.

Special information on Manganese Mines at home and abroad.

All business entrusted to C. J. SIMS will have careful and prompt attention.

MR. JOHN RISLEY, STOCK AND SHARE BROKER,
38, CORNHILL, LONDON E.C.
ESTABLISHED 1858.
BANKERS: LONDON AND WESTMINSTER, Lothbury.

POLROSE TIN SHARES.—This great property, situated near the Great Wheal Vor and Great Work Mines, is in the centre of a group of tin lodes that have given over two millions sterling in dividends; and, according to all reports, a large area of rich tin ground is in Polrose undeveloped, from which great riches will be forthcoming during the present year.

WEST CARADON.—The riches of this mine are well known. Over £120,000 have been paid in dividends, and a large and most important section of the mine is yet undeveloped. Operations have been commenced, which it is expected will shortly lay open rich courses of ore, which can be worked without steam power. This promises to be one of the greatest copper prizes of 1880, and shares should be immediately secured while they can be had at the present low price.

J. R. specially and strongly recommends these mines for a rise of from 300 to 400 per cent. during the present year.

MESSRS. JAMES SCOTT AND CO., PALMERSTON BUILDINGS, OLD BROAD STREET, LONDON.

CREBOR.—We have had this inspected by our agent, and find that shareholders ought not to be frightened out of their shares, which will go higher. We stated months back these shares would go to £12, and they went to £13. All lodes are subject to variation from time to time in value.

EAST CREBORS.—These keep steady, and will go higher.

WEST DEVON GREAT CONSOLS.—A fortnight ago we advised these at 22s. 6d.; they have now gone to 40s. to 45s., and in another fortnight will be higher. We are very sure that this property's position is as yet unknown to the majority of the readers of the Journal, who we presume will (as usual) be anxious to buy at £5 what can be now got at £2. If this recent discovery holds shares will be £10—some say £20. Crebors were 10s. when we first recommended them, and now £10.

STOCK AND SHARE MARKETS.

Prices of STOCKS and SHARES in RAILWAYS, BANKS, ENGLISH and FOREIGN GOVERNMENT SECURITIES, GAS, MINES, INSURANCE, and other Stock Exchange Securities, and various important information forwarded on application to—

MESSRS. PETER WATSON AND CO.,
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LONDON, E.C.

BUYER and SELLER of SHARES at the close Market Price of the day.

SHAREHOLDERS and INVESTORS may rely on all business being punctually and faithfully carried out.

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MESSRS. PETER WATSON AND CO.'S BRITISH AND FOREIGN MONTHLY MINING NEWS—STOCK AND SHARE INVESTMENT NOTES—MINES, MINERALS, AND METAL MARKETS—SHARE LIST, No. 815, VOL. XV., for FEBRUARY month, is now ready, and will be sent to customers on application.

Annual Subscription..... 5s. | Single Copy..... 6d.

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MR. ALFRED E. COOKE,
DEALER at NET PRICES in EVERY DESCRIPTION of STOCKS and SHARES,
76, OLD BROAD STREET, LONDON.
ESTABLISHED 1853.

NORTH D'ERESBY MOUNTAIN.
NORTH HERODSFOOT.
WEST PHŒNIX.
} SPECIAL BUSINESS.

The above, among others, are recommended to investors.
Daily Price List issued to clients.

SPECIAL NOTICE.

Mr. COOKE'S Offices adjoin both the Stock Exchange and Mining Market, but for the further convenience of clients they are now in telegraphic communication with the Stock Exchange.

ALFRED E. COOKE,
76, OLD BROAD STREET, LONDON.
(ESTABLISHED 1853)

Over 13 years at the above offices, adjoining the Stock Exchange and Mining Markets.

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MR. JAMES STOCKER, STOCKBROKER,
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ESTABLISHED 1848.

SPECIAL BUSINESS in the following:—

Almada Consols., 13s 6d
Colorado, £2⅞.
Chontales, 3s. 9d.
Consolidated, 17s. 6d.
Derwent, £3½.
Devon Great Cons, £13.
Don Pedro, 22s. 9d.
E. Rom. Gravels, 15s.
East Lovell, 37s. 6d.
East Caradon, £4¼.
East Crebor, 15s.
Eberhardt, £4⅝.
Emma, 12s.
Exchequer, 7s. 6d.
Flagstaff, £2½.
Glenroy, 24s.
Gunnislake (Clitters).
Glenrock, 13s. 9d.
Herodsfoot, £3⅝.
Hingston, 18s.
Leadhills, £3 8s. 9d.
Marke Valley, 38s.
Morfa Du, 23s. 9d.
North Penstruthal, 45s.
Nouveau Monde, 33s. 9
Parys Corpora., 26s. 6d.
Polrose, £2 6s.
Prince of Wales, 16s.
Pestarena, 6s. 3d.
Richmond, £13½.
Ruby, £5⅜.
Sentein.
South Darren, £3 3s. 9d
Sth. Penstruthal, 13s. 9
So. East Wynaad, off.w
South Frances, £15¾.
South Indian, £1 17s.
Tankerville, £4 16s.
West Caradon, 45s.
West Chiverton, 21s.
West Frances, £15¾.
Wheal Crebor, £8½.
Wheal Grenville, £8⅝.
Wheal Peevor, £26¼.

GOLD COAST MINING COMPANY.

IMPORTANT.—Mr. STOCKER has a limited number of SHARES FOR DISPOSAL at par. Parties desirous of having an interest should immediately apply. Reports on application.

BANKERS: LONDON AND WESTMINSTER.

BEAZLEY AND CO., MINING SHARE DEALERS,
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IMPORTANT TO INVESTORS.

The LOW PRICE to which many GOOD MINE SHARES have been forced affords a favourable opportunity to investors to purchase on terms we are confident will prove remunerative.

PEN-YR-ORSEDD.
EAST CARADON.
WEST PHŒNIX.
EAST LOVELL.
PARYS CORPORATION.
PRINCE OF WALES.
NORTH D'ERESBY MOUNTAIN.
} SPECIAL BUSINESS.

Mr. BEAZLEY'S recent visit to North D'Eresby Mountain Mine enables us to confirm our oft-repeated advice to INVESTORS—"Buy these shares at par, £1 per share, fully paid up." No further liability.

SHARES BOUGHT and SOLD at NET PRICES for CASH or ACCOUNT.

HORACE J. TAYLOR, STOCK AND SHARE DEALER,
38, GREAT ST. HELEN'S, LONDON, E.C.
(Late of the Port Phillip and Victoria Mining Companies.)

Business transacted at net prices in every description of Stocks and Shares.

SPECIAL DEALINGS in the undermentioned:—

25 Almada & Tirito.
100 Bedford United.
100 Bwlch United.
50 Consolidated.
100 Colorado.
75 Don Pedro.
26 Derwent.
10 Devon Great Consols.
100 Eberhardt & Aurora.
25 East Caradon.
50 Frontino.
100 Hingston Down.
25 Prince of Wales.
500 Pestarena.
250 Port Phillip.
100 Rossa Grande.
50 South Darren.
75 So. India Gold.
20 Tankerville.
50 Victoria (London).
20 Wheal Kitty.

VICTORIA (London) are strongly recommended for increased dividends, and should be purchased at the present low price.

BANKERS: CENTRAL BANK OF LONDON (Limited).

MESSRS. W. DUNN & CO., STOCK & SHARE DEALERS,
3 AND 4, GREAT WINCHESTER STREET BUILDINGS,
LONDON, E.C. ESTABLISHED 1868.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
29, BISHOPSGATE STREET, LONDON, E.C.,

Can SELL the following SHARES at prices annexed:—

50 Almada, 13s.
20 Bedford Uni., 18s. 9d.
50 Birdseye Creek, 20s. 6
70 Chontales, 5s.
20 Colorado, £3.
50 Cambrian.
25 Carnarvon, 22s.
20 Carn Camborne, £2.
70 Cedar Creek, 2s. 9d.
15 Devon Consols, £13½.
50 Don Pedro, £1 2s. 6d,
15 East Caradon, £4½.
20 Eberhardt, £4 10s.
30 Flagstaff, £2 10s.
25 Frontino, £3½.
30 Glenroy, £1 5s.
50 Glenrock Gold, £1 15s.
20 Hingston, 18s. 9d.
20 Killifreth, 23s.
20 Marke Valley, £2,
5 Minera, £11 15s.
40 Morfa Du, £1 5s.
25 New Kitty, £1¼.
50 Nou. Monde, £1 15s.
10 N. Wh. Peevor.
10 Pateley Bridge, 18s.
40 Parys Corpor., £1 8 6
100 Pestarena, 6s. 9d.
100 Port Phillip, 11s.
20 Pandora, 17s. 6d.
50 Prince of Wales, 17s.
20 Roman Grav, £10¾.
100 Rossa Grande, 6s.
20 Ruby Silver, £5¼.
30 So. D'Eresby, 30s.
50 So. Indian Gold, £1⅞
50 Tamar Sil.-Lead, £1⅝
10 Tankerville, £4 18s 9d
50 Van & Glyn United, 17s.
20 West Kitty, £2 2s 6d
20 West Phœnix, £2 7 6
10 Wheal Crebor, £9¾.
30 Wheal Jewell, £1.

BWLCH UNITED MINES—SPECIAL BUSINESS in these shares.
SOUTH WHEAL CREBOR (Limited), £1 fully pd., strongly recommended at £1¾

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,
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MR. ALFRED THOMAS,
MINING AGENT, AND STOCK AND SHARE DEALER,
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SAFE DIVIDEND INVESTMENTS PAYING 4 TO 6 AND 10 PER CENT. PER ANNUM ON PRESENT OUTLAY.

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It is a Reliable "Guide," giving valuable information and Sound Advice, &c. It gives Market prices; Dividends upon outlay, when payable; Reports, &c., &c.

IT CONTAINS ALL THE SAFE INVESTMENTS IN THE FOLLOWING:—

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Indian, American Stocks.
Bank, Financial Shares
Tramway, Telegraph Shares.
Municipal Bonds.
Insurance, Gas, Waterworks.
Colonial, Foreign Stocks.
British, Foreign, Colonial Mines.
Tea, Land Shares.
Shipping, Dock Shares.
Miscellaneous Shares, &c., &c.

HENRY GOULD SHARP, STOCK AND SHARE BROKER,
42, POULTRY, LONDON, E.C.—ESTABLISHED 1852.
BANKERS: LONDON AND WESTMINSTER, Lothbury, London, E.C.

NOTICE OF REMOVAL.

GRANVILLE SHARP,
TO
32, QUEEN VICTORIA STREET, LONDON, E.C.

MR. EDWARD ASHMEAD has REMOVED from Cornhill Chambers, 62, Cornhill, London, E.C., to
No. 2, DRAPER'S GARDENS, THROGMORTON STREET,
LONDON, E.C.

JOHN B. REYNOLDS, STOCK AND SHARE DEALER,
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ESTABLISHED 20 YEARS.—BANKERS: LONDON & SOUTH-WESTERN.

Mr. REYNOLDS deals promptly at close prices in all descriptions of Stocks and Shares, making a speciality of MINES, concerning which he can get accurate information.

Mr. REYNOLDS points to the results of his recommendation of Mines in the Peevor district as an illustration of the profits which can be made, and irrespective of market fluctuations, which no one can foresee.

He strongly advises the purchase of BLUE HILLS, WEST PEEVORS, and WEST KITTYS. Sellers or Buyers will find ready markets for these Shares at his offices or on the Stock Exchange.

He is prepared to BUY a large number of NEW KITTYS, which he also recommends for a rise in price and as an excellent Investment.

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FOREIGN BONDS, RAILWAYS, TRAMWAYS, GAS, INSURANCE, IRON, COAL, and MISCELLANEOUS SHARES.

Prices, with reliable information, forwarded on application to—

MESSRS. H. R. LEWIS AND CO.,
BARTHOLOMEW HOUSE,
BARTHOLOMEW LANE,
LONDON, E.C.

SPECIAL INFORMATION in the SELECTION of MINING SECURITIES. The "MINING TELEGRAPH," published Monthly, and "WEEKLY PRICE LIST" may be had on application.

FERDINAND R. KIRK, 5, BIRCHIN LANE, LONDON, E.C.

FORTNIGHTLY ACCOUNTS opened, on receipt of the usual "cover," in Railways Home and Foreign, Mining Shares, Foreign Bonds, and certain Miscellaneous Securities.

"THE WEEK."—A SEPARATE EDITION from that which appears in the *Mining Journal* is published every Wednesday evening, containing "Notes and Hints on the Stock Markets," with Closing Prices. May be had on application.

BANKERS: LONDON AND WESTMINSTER, Lothbury.

MR. E. J BARTLETT, BRITISH AND FOREIGN STOCK AND SHARE DEALER, No. 30, GREAT ST. HELEN'S, LONDON, E.C.

PEN-YR-ORSEDD, GREAT HOLWAY, and WEST HOLWAY shares should have a great rise—rich courses of ore proved.

JUST OUT,

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MESSRS. J. GAPPER AND CO., PRACTICAL MINING ENGINEERS, No. 5, AUSTIN FRIARS, E.C.
ESTABLISHED 1842.

Messrs. G. and Co. strongly recommend the purchase of Shares in LADY BERTHA UNITED, BETTWS-Y-COED (Lead), and GLANDORE MINES for a great rise in price during the present year.

MESSRS. ENDEAN AND CO., STOCK AND SHARE DEALERS, 85, GRACECHURCH STREET, LONDON, E.C.
ESTABLISHED 1861.
BANKERS: LONDON AND WESTMINSTER, Lothbury; and BARCLAY, BEVAN, and CO., Lombard-street, E.C.

Messrs. ENDEAN and Co. strongly advise the purchase of well selected Lead Mines at present low prices:—Van, Great Laxey, Roman Gravels, Llanrwst, and Tamar, also South Wheal Crebor (Copper). The next great rise will be in Lead Shares, and many of those now offering will be eagerly sought after at considerably higher prices immediately there is a run upon them.

Messrs. ENDEAN and Co. are prepared to deal in all the shares they recommend at close prices.

Messrs. ENDEAN and Co strongly advise the purchase of CARN CAMBORNE shares. This mine lies between Dolcoath and South Condurrow; the former is selling for over £300,000, and the latter for nearly £80,000. Carn Camborne is in 6000 shares, now to be had for £2 each. Vigorous operations will be at once commenced, and there is every reason to believe that Carn Camborne will prove in depth as rich as any of the great mines by which it is surrounded. Shares, now £2 5s. each, are CERTAIN to have a considerable rise in price. Good sales of tin and copper will be commenced within one month after the mine is in full work.

FRANCIS FRANCIS,
MINING ENGINEER, STOCK AND SHARE DEALER,
CORN EXCHANGE CHAMBERS, CHESTER.

SPECIAL BUSINESS in—HALKYN DISTRICT MINES DRAINAGE, RHYDALUN, RHOSESMOR, DEEP LEVEL, NORTH HENDRE, PEN-YR-ORSEDD, VRON, TYDDYN-Y-GWYNT, and other Mining Properties in the Drainage areas. Also in PITANGUI, SANTA BARBARA, and other Brazilian Gold Mines.

MR. JOHN L. M. FRASER
(Fourteen Years at the Great Minera Mines)
CONSULTING MINING ENGINEER, &c.,
GREENFIELD HOUSE, WREXHAM.

Mines managed and Secretaried from £150 per annum. Inspections from £3 3s., and expenses.

All descriptions of MINING PLANT and STORES at the lowest possible prices. Enquiries courted.

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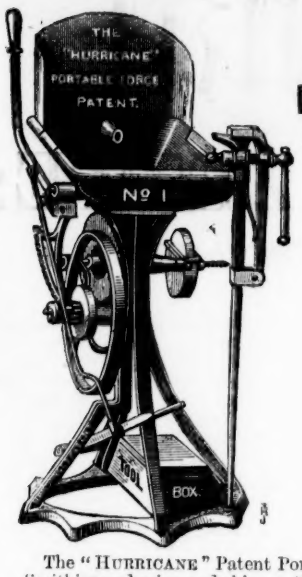
Shares can now be obtained that will pay from 4 to 10 per cent. A select list from personal inspections on application.

A COMPLETE, PORTABLE, AND EFFICIENT SMITHY FOR £7 7s.



THE "HURRICANE" PORTABLE FORGE

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A Complete and Portable Smithy, possessing a Powerful Blast, a Forge, a Hearth, a Vice, an Anvil, a Rivetter's Hearth,

a Brazier's Hearth, a Mine Ventilating Apparatus, a Tool Grinder (Emery), a Cutter, a Circular Saw and Bench, a Polishing Wheel, a Chuck, Two Drills, a Drill Rest, and a Tool Box.

PATENTED IN EUROPE AND AMERICA.

The "HURRICANE" Patent Portable Forges possess advantages unobtainable with Forges of any other description. They commend themselves to the world, not only as being complete and portable Smithies and mine and ship ventilators of the highest practical value, but also for the extreme ease with which they are worked, the simplicity and compactness of their construction, and the steady continuous blast, which speedily creates an unusually high degree of heat. The "Hurricane" Portable Forges are made in nine distinct sizes, embrace attachments which form a complete smithy, and are suitable for all purposes in all climates.

The Rivetter's Hearth is readily connected to the nozzle of the forge by means of a flexible tube, and can be used in any awkward position for keeping rivets hot and close to the work. The Brazier's Hearth is similarly worked, but is constructed with a nozzle on opposite sides for producing heat equally on both sides of the work, and is particularly adapted for brazing band saws, &c. Hand Blowers for all ventilating purposes, and for fixed blacksmiths' hearths, are made on a new principle.

The Lever Handle can be used at any angle, or taken off altogether, and the Treadle used instead. There is a Recovering Spring to raise the Handle or Treadle. This arrangement secures all the easy motion of the old-fashioned bellows, is worked with much less effort than the Rotary Hand Wheel, and there are no Leather Bands to be burnt, no Cranks, and consequently no "Dead Centres." Three larger sizes than those given below are kept in stock.

A 1-INCH BAR OF IRON CAN BE RAISED TO A WELDING HEAT IN TWO-AND-A-HALF MINUTES.

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No. 0.—THE AMATEURS', JEWELLERS', OR DENTISTS' FORGE AND WORKSHOP, 3 ft. by 1 ft. 6 in., and 2 ft. 8 in. high, fitted as a complete Smithy, including Forge, 6-in. patent Fan Blast, Hearth, Parallel, Vice with Anvil, Emery Wheel, Chuck, 2 Drills, a Cutter, Polishing Wheel, Crucible and Tongs, Ladle, Spanners, Drawers, Treadle and Flexible Band, Automatic Clutch, &c., &c. Weight, 84 lbs. Muffler, for conveying the smoke to chimney, 15s. extra..... **£8 8s. 0d.**

No. 1.—FORGE, HEARTH (lined with fire-brick), and PAN 18 in. square, 2 ft. 7 in. high. Weight 132 lbs., with 8-in. patent Fan Blast, Spanners, and Emery Tool Grinder, complete, on standard ..... **£5 15s. 0d.**

If also fitted with a 2½-inch Vice and Anvil combined 25s. extra. Muffler, 15s. extra. Extra friction wheels, 1s. each.

No. 2.—DITTO DITTO. Weight, 156 lbs. Fitted with 2½-in. Vice with Anvil, 4-in. Emery Wheel or Grindstone, Chuck, Cutter, and two Drills, a Buffing Wheel or Polisher, Spanner, Tool Chest, Lock and Key, &c. Lever and Treadle. Muffler, 15s. extra..... **£7 7s. 0d.**

No. 3.—FORGE AND HEARTH, 26 in. by 34 in. Weight, 160 lbs.: 10-in. patent Fan Blast, Spanners, and 5-in. Emery Wheel, complete on frame with four legs and two travelling wheels. Lever and Treadle ..... **£8 8s. 0d.**

If fitted with a 3-inch Vice and Anvil, 28s. 6d. extra. Hood, 21s. extra. Muffler, 35s. extra.

No. 4.—DITTO DITTO. Weight, 184 lbs. Fitted with Two Travelling Wheels, 5-in. Circular Saw and Bench, and all the attachments of No. 2 Forge, but increased in suitable proportions. Hood, 21s. extra. Muffler, 35s. extra ..... **£10 10s. 0d.**

No. 5.—FORGE AND HEARTH, 30 in. by 42 in. Weight, 250 lbs. With 12-in. patent Fan Blast, Spanners, and 6-in. Emery Wheel, complete on frame with four legs. Fitted with Lever Treadle, Two Travelling Wheels, and Fast and Loose Pulleys for power ..... **£12 12s. 0d.**

If fitted with a 3½-in. Vice and Anvil, 32s. extra. Hood, 30s. extra. Muffler, 42s. extra.

No. 6.—DITTO DITTO. Weight, 280 lbs. Fitted with all the attachments of Nos. 2 and 4 Forges, but proportionately increased in size. Hood, 30s. extra. Muffler, 42s. extra ... **£15 15s. 0d.**

Rivetters' Hearths, 15 in. by 15 in., 21s. Braziers' Hearths, 15 in. by 15 in., 27s. 6d. Union and Sockets for 1¼-in. tube, 12s. 6d. Flexible Tubing, 1¼-in., 1s. 6d. per foot.

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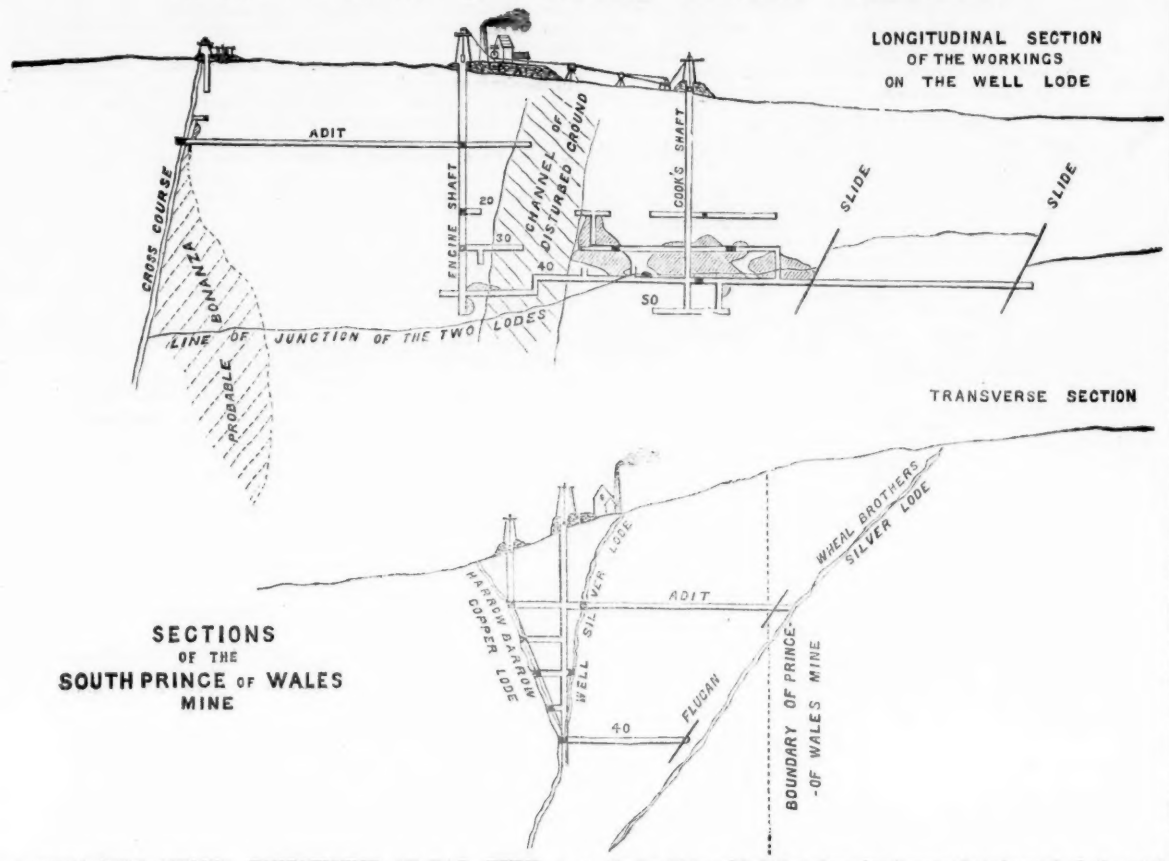
SILVER MINING ENTERPRISE IN CORNWALL—THE SOUTH PRINCE OF WALES MINING COMPANY.



A BONA-FIDE MINING INVESTMENT AT PAR, WITH A CERTAIN PROSPECT OF LARGE DIVIDENDS, AND OF THE SHARES RISING TO A HIGH PREMIUM.

ISSUE OF 5000 SHARES OF £1 EACH,

IN THE

SOUTH PRINCE OF WALES MINE

(SITUATE AT HARROWBARROW, NEAR CALSTOCK, CORNWALL.)

The accompanying illustrations will show that this mine consists of three lodes, which all form a junction in depth, and which towards the west are intersected by a cross-course. The most southerly of these lodes has proved very productive for copper and arsenic, while both of the others are true silver lodes. One of the latter is the famous Wheal Brothers lode, which above the adit level yielded large quantities of rich silver ore in the Wheal Brothers, Prince of Wales, and Queen Mines, the last mentioned being now included in the South Prince of Wales. The other is known as the Well lode, and is a continuation of the vein which in the Wheal Mexico, East Cornwall, and Wheal Langford Mines, to the west, contained the richest deposit of silver ever worked in the United Kingdom. In March, 1877, Cook's shaft was sunk on the underlie of the Harrowbarrow lode to where a junction occurred with the Well lode, and a bunch of silver was cut, which yielded upwards of 10,000*l.* to the company then working the mine. This bunch is shown in the shaded parts of the longitudinal section, and will be seen to correspond with the line of junction of the lodes. It was "cut out" on the east by a "head" or "slide" in the country rock, and on the west by a singular disturbance of the ground producing a warp in the lode for some considerable distance. The sudden falling-off in the returns had not been foreseen, and, the company being heavily in debt, a voluntary liquidation was resolved upon. It was, however, arranged by some of the principal shareholders at Birmingham to resume exploratory work at once, and this they have done during the past nine months, with results that have led to the formation of the present company, which, as the following remarks will prove, is on the very eve of becoming one of the greatest mining prizes of the day.

1.—A cross-cut has been driven north in the silver-bearing run of ground to intersect the Wheal Brothers lode at about 70 fms. from surface. In this cross-cut a flookan branch has just been cut, similar to one that occurs about 3 fms. south of the lode in the adit cross-cut. A few fathoms more driving must, therefore, reach the Wheal Brothers lode, and, in all probability, a large bunch of silver. The ground in the breast of the cross-cut is a beautiful buff-coloured killas, precisely similar to that which produced the silver in the Well lode.

2.—The 40 fm. level has been extended east of Cook's shaft through the hard ground encountered after the slide that cut out the silver, and has just passed another slide, the effect of which is that the lode has suddenly resumed a character highly congenial for silver. It seems that the line of junction is heaved upwards between the two slides, and that a further rich deposit must be standing so near the present end that a fathom or two of driving or rising will discover it

3.—The western ends of both the 20 and 50 fm. levels at Cook's shaft are rapidly improving, and in the former some splendid copper ore, making a good produce for silver, is now in sight, and a small pile of about 5 cwts. has been already broken. This is a similar indication to what was met with in the level below, just in advance of a spot so rich that 1000*l.* worth of silver was cut in 24 hours.

3.—In about 2 fms. more sinking the engine-shaft will reach the junction of the Harrowbarrow and Well lodes, and in the side of the shaft, close to the present bottom, flakes of black silver so rich as to be malleable are already occurring in the joints of the rock.

5.—The adit level has been driven west to the cross-course, where a small bunch of silver ore has been met with. In this bunch some beautiful specimens of native silver have been found, an indication which in the Wheal Brothers lode was a certain precursor of large deposits of ore. The present discovery appears, however, to be on a side branch of the lode, the main body of which is considered to be standing to the north. A cross-cut has accordingly been commenced, and will doubtless cut the lode and a large mass of silver ore almost immediately.

6.—The shallow adit on the Harrowbarrow copper lode was some years ago extended west to the cross-course, and the copper ore taken away at this point was enriched up to 20 ozs. of silver per ton. It follows as a matter of the highest probability that when the engine-shaft shall be sunk to the junction of the Harrowbarrow and Well lodes, and a level driven along the junction to the cross-course, a bonanza will be discovered of vast richness, extending from the adit right down to where the Wheal Brothers lode shall at length fall in and join the other two.

Whilst, however, so much stress is laid on the prospects of rich discoveries, it must not be forgotten that the ground already laid open is for hundreds of fathoms capable of being worked to a profit. The lodestuff is all more or less impregnated with silver in a form susceptible of concentration by jigging and dressing. This has for some months past been proved by setting the work on tribute, and it is found that men will return the silver at an average of 13s. in 1*l.*, so that the mine makes a profit of about one-third. Upwards of 400 tons have thus been treated, and the existing reserves of ore fit for concentration are estimated to produce about 30,000 oz. of silver, of which, therefore, about 10,000 oz. will be available for dividends.

It should be added that the mine is very cheaply worked, the total expenses for pumping and hauling being only about 20*l.* per month.

Furthermore, the company acquires the mine at prime cost, without any loading for vendors' profits or promotion money. It buys from the mortgagees of the old company for 2000*l.*, including the full equipment of plant and machinery, and this purchase-money is payable in 1881, a rent at the rate of 200*l.* being paid meanwhile.

In view of the considerable premium at which the shares of the neighbouring Prince of Wales Mine are now standing—solely (and quite justifiably) on the prospect of discoveries being made—the list of applications at par for South Prince of Wales shares will be closed on March 31, and as it is anticipated that more than the total number available will be applied for, the allotments will be made in accordance with the priority of application.

Everything that is here stated is open to the strictest investigation. Specimens of the ore may be seen at the Geological Museum in Jermyn-street, and at the offices of the company's London agents, Messrs. Stuart and Co., 143, Cannon-street, E.C., where plans of the mine may be inspected. Reference is also made to the appended reports from eminent authorities.

The directors of the company are—Edward Charles Swinden, Esq., 123, Golden Hillock-road, Birmingham; John Frederick William Penny, Esq., 115, Coventry-road, Birmingham; G. S. Dowling, Esq., 14, Temple-street, Birmingham; R. Lachlan Bogue, Esq., 17, Oxford-street, Liverpool; and J. Harrison Peel, Esq., 67, Leadenhall-street, London, E.C.; and the registered office is at 14, Temple-street, Birmingham.

The applications for shares may be made by letter, and need not be accompanied by any deposit, and may be sent either to the secretary, Mr. J. Nesbitt Dowling, at the Birmingham office, or to Messrs. Stuart and Co., 143, Cannon-street, E.C.

The full amount of the shares (1*l.* each) will be payable on allotment, after which there will be no further liability.

LIST OF PARCELS OF SILVER ORE CUT FROM THE WELL LODE IN THREE MONTHS OF 1878, AND SOLD THROUGH MESSRS. JOHNSON, MATTHEY, AND CO.:—

Net dry weight. Tons	cwts.	qrs.	lbs.	No. of ounces of fine silver per ton.	Price per ton realised. £	s.	d.
0	4	1	14½	7148	1716	16	0
0	3	0	10	2284	495	0	0
0	3	0	10	1828	410	0	0
0	7	3	6	1617	368	1	0
1	5	0	25	1447	320	0	0
1	5	0	12	1356	307	7	6
0	6	1	16	1302	290	0	0
1	1	3	11	1035	222	7	0
10	18	0	0	265	58	13	6
2	13	3	14	249	45	4	6
9	18	3	14	195	36	15	6
1	14	2	0	178	29	10	9
2	13	1	0	165	26	15	4
1	5	2	10	157	24	10	5
6	19	0	9	145	25	4	6
2	12	0	14	141	26	12	6
11	14	2	21	133	26	16	6
2	18	3	2	91	12	0	10
3	18	2	14	88¾	9	19	0
62	3	1	6½				

*** In contrast to the above, it should be borne in mind that the average value of the ores produced from the Comstock lode is only about 12*l.* per ton.

APPENDIX.

Extracts from vol. viii. of the Transactions of the Royal Geological Society of Cornwall:—

"After this the mine remained many years unwrought; but in 1833 it was re-opened under the name of Wheal Brothers."—De la Beche, Report, p. 613, Cornwall Geol. Trans., v., p. 140, table xciii.

"Portions of argentiferous earthy brown iron ore (silver gossan) left by the former adventurers in shallow parts of the mine were now extracted and sold for between 150*l.* and 200*l.* per ton. So greatly does the ore differ in quality that some parcels of it brought no more than 2*l.*, and others containing 0·059976 their weight of silver (= 1959 oz. per ton), as much as 500*l.* per ton in the market."—Captain Knott, MSS.

"At the 30 fm. level masses of native silver weighing many pounds each occurred in a part of the lode which was worth from 500*l.* to 600*l.* per fathom. But great part of the ore when brought to the surface contained only from (8 to 10 oz.) 0·000245 to 0·000306 its weight, although when (dressed) prepared for sale it yielded (60 oz. per ton of ore) 0·001836 its weight of silver."—Percival Norton Johnson, Esq., F.R.S., F.G.S.

"Wheal Sisters, opened also in 1833, on an eastern part of the same lode, afforded ore which, resembling for the most part that of Wheal Brothers, containing from 0·00,459 (= 150 oz. per ton) to 0·07,344 (2400 oz. per ton) its weight of silver. Portions of it were, however, mixed with from 0·15 to 0·2 their weight of lead. Small quantities of the silver ore were sold at 20s. per lb., and some parcels found a market at from 400*l.* to 500*l.* per ton, but the ordinary price was between 30*l.* and 50*l.*"—Capt. Knott, an agent of the mine, MSS.

"The East Cornwall Mine was opened a third time, in 1848, under the name of Wheal Langford. For several years the ore afforded from 0·001,224 (= 40 oz. per ton) to 0·060,466 (= 1975 oz. per ton) its weight of silver, and its price ranged between 10*l.* and 550*l.* per ton. In June, 1855, 2 tons 6 cwts. 2 qrs. 6 lbs. (sold at 509*l.* per ton), realised 1184*l.* 15s. 9d."—Capt. Knott, an agent of the mine, MSS.

"Wheal Mexico, wrought to an inconsiderable depth on an eastern part of the same lode during 1847-8, afforded the chloride of silver, largely mixed with slaty clay, granular quartz, and the carbonate of iron. Some portions of the ore contained 0·001,224 (= 40 oz. per ton), 0·026,316 (= 859 oz. per ton), their weight of silver. The prices generally ranged from 5*l.* to 200*l.* per ton, but small quantities free from impurities were sold at 2*l.* 10s. per (avoirdupois) pound."—Capt. Knott, manager of the mine, MSS.

*** The total output of silver during the period comprised in the above extracts we have been unable to ascertain; but, as we find it publicly stated that one of the mines in question (Wheal Langford) yielded a profit of upwards of 90,000*l.* in two years, it is clear that the total production was very large.

Extracts from a lecture delivered at the Plymouth meeting of the British Association in 1877, by Prof. Warington W. Smyth, F.R.S., the chief Mineral Inspector for the Crown and the Duchy of Cornwall:—

"On the west of Dartmoor we appear to leap at once into a crowd of nearly parallel lodes, which continue with but little interruption to a mile beyond the granite protrusions of Hingston Down and Kit Hill. And as a proof of the vast importance of the lines in which I hope to interest you, and which on the ordinary map look so short and meaningless, I would crave permission for a few minutes to employ, as it were, a larger scale, and to glance at a single example of the social and commercial aspect of the study. A small patch of ground on the west of Tavistock (and on the skirts of Hingston Down), showing one of these lode-lines of three miles in length, is the scene of the working of the Devon Great Consols Mines. Here the operations, begun only in 1844, have yielded up to April last a total amount of 3,226,426*l.*, and the clear profit to the shareholders has been 1,192,960*l.* Employing from 600 to 1000 men, the excavations in the solid rock have amounted in shafts and in winzes to upwards of nine miles in length, in galleries or levels to more than 30 miles. At Harrowbarrow (on the southern slope of Hingston Down) at the present moment a northern lode (the Well lode) is a flookan exhibiting such a course of ruby silver ore (pyrargyrite), with its faithful accompaniment of chalybite, as to be worth hundreds of pounds for every fathom."

THE MINERAL RESOURCES OF EASTERN NEVADA—No. III.

RUBY CONSOLIDATED, AND OTHER MINES.

The Phœnix Mine was located in April, 1870, as the Adams and Farren and Deep Mines. Some time in 1871 the title to this property was acquired by a California corporation under the name of the Phœnix Silver Mining Company. Systematic work on the mine was inaugurated in the course of the year 1871 by George H. Williard, the first superintendent. During the year 1872 the Phœnix Company having developed large bodies of ore near the surface, purchased of the builder, Col. T. J. Taylor, the furnace now known as the Hoosac. The mine and furnace were worked successfully for more than a year. The yield was large, but owing to extravagant and unbusiness-like management no profits accrued to the company. From the development of the mine since systematic working began, the large amount of ore extracted, the amount in sight in the mine, and the present indications, there is hardly room for doubt, that on attaining depth, this mine will prove to be one of the most valuable mines in the district. It is proven by underground development that the Phœnix is on the same lode with the K. K., Eureka Consolidated, and Richmond Mines.

One of the most important mining companies operating in Eureka district is the Ruby Consolidated, an English corporation. The series of locations under their control are situated on what is recognised as the main mineral belt, extending from Ruby Hill to the Hamburg. Both, in point of past yield and future prospects, these claims are deserving of great prominence. Although the deepest workings are but some 500 ft., the deposits were of large proportions, and the ore extracted of high grade. The principal mine belonging to the company, that is in point of past yield, is the Dunderberg. This property was located in May, 1869, by Messrs. Goetchus, Childs, Hedrick, Reed, Stone, Truman and Clark. It was worked by the locators up to April, 1872. They extracted a large amount of ore, which was smelted partly in the old Roslin and partly in the Richmond furnaces. In April, 1872, this claim, with another called May Day, were conveyed to H. Heyneman, of San Franciso, who subsequently sold these claims to the Ruby Consolidated Mining Company, of London In 1874 a large body of ore was developed in the mine by parties who had jumped a portion of it, and heavy litigation between the rightful owners and the jumpers was the result. During and subsequent to the settlement of this litigation a dispute arose between Mr. Heyneman and the Ruby Company in regard to the expenses of the lawsuit. From this time forward Mr. Heyneman and others connected with him, held and worked the mine adversely to the Ruby Consolidated Mining Company, for a period of about four years. During this time over 20,000 tons of ore were extracted and reduced at the Ruby Consolidated furnaces. The assay value of gold, silver, and lead from the above quantity of ore is estimated at $1,400,000. In November, 1876, the hoisting works were removed to their present position at the Atlas shaft, and were run uninterruptedly until February 1877, at which time the parties in possession were enjoined by the Supreme Court of Nevada from further working upon the Dunderberg claim. From that period until August, 1879, operations ceased, and the location remained idle. In the meantime negociations for a settlement of all differences were effected and amicably arranged. Since the latter date work has been resumed. It is considered that with a proper expenditure of money in the development of the property it will soon be added to the list of bullion producers. The prospect in the mine, so far as it has been opened, is scarcely inferior to any in the district, two or three of the Ruby Hill group excepted. The aggregate yield under the different managements will exceed $2,000,000, and it is as yet scarcely prospected.

The British Mill and Mining Company's locations comprise a large number of veins in the district, among which the principal ones are the Connolly and the Industry series, on Prospect Mountain. The Connolly was located early in 1869, by Mr. Connolly, W. S. Keyes, and Pat and Mike Lamb. It is situated on a lateral spur of Prospect Mountain, between the Hamburg and Dunderberg Mines, and its position is undoubtedly on the great mineral belt. For several years this property was worked by the original owners; great quantities of ore being extracted, a large amount of money accruing therefrom But the mine was not placed upon a sound financial basis and in shape to develope its resources until passing into the hands of the present company. The erection of the present steam hoisting works, in 1876, by them was the advent of more thorough prospecting and a greater yield of rich ore. The Industry series comprises the Industry Piute, Summit, and Chief of the Hill. Of this series the Industry is the principal mine. It was located in August, 1869. Previous to its purchase by the present owners the mine produced large quantities of rich ore, averaging from $100 to $250 per ton, gold predominating, and since its purchase it has continued to yield as largely as before. It is estimated that over $75,000 has been taken from this one location. Outside the Industry the principal work has and is being done on the Piute. An incline has been run here to a depth of 80 ft. on the ledge showing strong indications of mineral, and the early uncovering of large ore bodies is anticipated. Besides the Prospect Mountain Mines, the company owns the Basye and the Page and Corwin Mines, in Secret Canyon, and the Maryland series, embracing six patented claims in Silverado. The Basye was located in 1869 by Cromer and Basye, and large quantities of ores were extracted by them, some of which was the richest ever struck in the district, averaging $1000 per ton. The mine is at present being worked and small lots of good ore are being taken out. The Page and Corwin is also a noted mine of the district, and has yielded largely. A big amount of rich ore has been taken from the surface workings. At present this mine is not being worked, however. No work has been done by the company upon the Maryland series, but previous to its purchase the mines produced a large quantity of very rich ore. The indications are at present very good, and they need but proper developement to make them yield as handsomely as in the past. Outside of these mining properties the company has a fine 20-stamp mill at Pinto, at which not only a large quantity of their own ores are worked but a renumerative trade in the working of custom ores may be carried on. The company approximate the gross yield of their several mines at over $300,000.

The principal locations of the Hamburg group of mines are the Hamburg, Wade, Badger and Friday lodes. These locations are on longitudinal veins, having a course nearly north and south. The Wade lies on the group near the shales, and has a course north-easterly and south-westerly. This is a very important vein of smelting ore. The vein is variable in thickness from 3 to 10 ft. The ores are of a soft carbonate of lead mixed with oxide of iron, manganese and the more precious metals. The Hamburg lode is a longitudinal, or north and south vein, that approaches the Wade going south, and diverges from it going north. The Badger lode is a parallel vein of ore west of the Hamburg about 75 ft. The two veins, Hamburg and Badger, are of variable sizes from a few inches to 6 or 8 ft., and prepresent a series of swells and contractions like the majority of veins in limestone. The Friday lode is situated about 500 ft. north of the Hamburg, at the base of Hamburg hill. It lies near the shale, and has the same general characteristics as the Wade lode, if it is not in fact a continuation of the same lode, or a contact vein. There can

be no doubt of its importance, as shown by the quality of ore and the evident indications of a strong vein at a greater depth. There are nine well marked cross lodes or gash veins in the Hamburg group that carry good ore. The size of these lodes, as far as developed, is exceedingly irregular, pinching in some places to a small seam of a few inches, and then opening into veins of several feet in thickness. The property has been managed for years by Mr. J. C. Powell, one of the most able and efficient miners in the district, and to him is due its present excellent condition. He is now sinking the main shaft a further depth of 200 ft., which, when completed and drifts run, will solve the problem of the permanence and value of the mine.

The Hoosac Mine is situated on Hoosac Mountain, and was located in November, 1869, by W. Wermuth, who until 1872 worked the mine individually, and succeeded in extracting a large amount of good ore, a considerable quantity of which was worked at the old Bevan and Wallace furnace. Notwithstanding the many ups and downs that the mine has passed through, it has produced over $600,000, and is looking better to-day than ever. Mr. Wermuth is the present superintendent, and deserves great credit for the pluck and persistence he has shown in developing the mine. The California group of mines comprises the Silver King and the California Mines. The California was located in the fall of 1869, and the spring of 1870, by Joe Mendes and others. These mines are situated in New York Canyon, on what is known as Fan Tail Gulch. They adjoin the Connolly Mine on the north. Both mines are covered by United States patents. This property is now one of the most promising in the district. The Matamoras Mine is situated on the western slope of Prospect Mountain. In 1876 it was sold by its owners to a Chicago company for the sum of $10,000, the purchase including the Buttercup furnacesite in Eureka. Some hitch occurred in the negociations, and it was not until the summer of 1877 that the purchasers took possession. They commenced vigorous operations at once, prospecting the mine and transporting ores to the small smelter they had acquired. Notwithstanding the primitive facilities for reducing ore and the fact that it had to be packed on mule-back over rough trails a distance of 5 miles, the first run yielded a large profit, and at its conclusion the company determined upon more extensive operations. Steam hoisting works were sent out from Chicago and erected at the mine, and a substantial two compartment shaft was sunk to the depth of 500 ft. It was demonstrated that rich bodies of ore existed in the property, and that it was of great value. About a year ago complications arose among the eastern owners and shareholders, and as a consequence both the mine and smelting works were shut down, and have remained idle up to this time. What their future intentions may be is not known, but that they possess one of the most promising properties in the district cannot be disputed. The Golden Rule series embraces a large number of claims on the great lode, situated seemingly at the point of divergence where the mineral belt divides, one portion to the east and one to the west of Prospect Mountain, and is between the Eagle series and the Dunderberg Mines. This collection of mines was located in 1877, and is the property of M. H. Joseph and Co. It includes the Golden Rule, El Dorado No. 2, Clipper, a portion of the Blue Bird Mine, and several other minor claims, the series covering over 2,400,000 square feet of ground on the surface, and no doubt holding its position upon the Ruby Hill lode. The principal work has been upon the El Dorado, where a shaft has been sunk to a depth of 60 ft., a drift run west 61 ft., where ore has been encountered, and a drift running 40 on the regular vein, which varies from 2 ft. to 5 ft. in width. The main shaft is to be continued to a depth of 160 ft., when the taking out of ore will be resumed. This mine has been self-supporting, and has produced over $3000. Its ore averages from $100 to $149 per ton.

The Bullwhacker Mine is located on the northern slope of Adams Hill. It was located in 1871, and was subsequently sold to the Ruby and Dunderberg Company, an English incorporation. Later it was involved in heavy litigations regarding the title, which resulted in its lying idle for a great length of time. The property is a valuable one, and had produced before litigation a gross yield of over a million dollars, 13,000 tons of ore having been extracted which assayed an average of $80 to the ton. The mine has lately been started up by the Ruby and Dunderberg Company under the superintendence of J. J. Kermeen, and the work of prospecting the mine will be vigorously pushed forward, and ere long it will gain its wonted position among the big bullion producers of the camp. The Wales Consolidated Mine was located in 1878, and is now owned by a San Franciscan company. The operations at the mine have not been given any great publicity, and but little definite information can be obtained regarding it. It is rumoured that a large body of ore has been struck of extensive proportions, and the report was confirmed by experts who were sent to examine the property, but the extent or richness of these deposits cannot for the moment be ascertained. As the stock, which was listed on the San Francisco Board some months since, has always commanded a fair price, it is but reasonable to suppose that the shareholders are confident that they possess a good mine. The principal mines of the Adams Hill group are the General Lee, S. P. Dewey, Wide West, Alabama, Consul, and Webfoot. They comprise a large tract of mineral land on Adams Hill, and have, at various times since their location in 1871 produced large quantities of rich ore. Before coming into the hands of the present company a large amount of work was done on them, principaly in the extraction of surface ores, but for several years past the work has been carried on in a more systematic manner by the aid of steam hoisting works. It is estimated that upwards of a million dollars have been taken from this series of mines. Paul Pry Mine is situated at the base of Wide West Hill. Within the past month the property has been worked on lease. The lessees have recently struck a large body of high-grade ore, the poorest of which works $41 per ton, two-thirds of the value being in gold. It is impossible to tell, with the present development, the extent of this strike. The ore has been run into for 8 ft., with no indication of walls and ore above, below, and on either side. It is also improving in grade as it is opened up. This property gives every promise of being very valuable. It pays from the grass roots. The greatest depth yet attained is less than 30 ft. from the surface.

Uncle Sam Consolidated Mine adjoins the Hamburg on the north; its situation in regard to mines that have produced largely, and the ore developed in the limited workings so far, insures its value when depth is attained. The Williamburg Mine is situated on Adams Hill, and was located in 1871. Although worked on a small and economical basis, it is estimated, has produced a gross yield of about $350,000 since its location, and deserves to be ranked as one of the foremost properties on Adams Hill. At present it is under the superintendence of Mr. R. P. McDaniels, and work is being pushed ahead rapidly. The Stella, Kit Carson, and Satellite Mines are valuable properties, but are only partially developed; and the same may be said of the Bowman Mine, Charter tunnel, Maryland tunnel, Red Bird Mine, Silver Peak tunnel, and many other mines in the district. The situation of the Alexandria Mine is immediately below that of the Industry, on Prospect Mountain. It is one of the oldest mines in the district, and one that has produced an immense quantity of rich ore. It at present belongs to a Detroit company. This mine produced during the summer of 1878 over $7000, and is still working in good prospects. The Silver King Mine, between the Connolly and the Golden Rule series, is the property of Geo. W. Lamoureux. It was located in 1871, but, although enjoying an enviable location and having excellent prospects, has so far been but partially developed, and is at present lying idle.

With regard to the smelting furnaces in the district there are the Richmond Consolidated, with four hydrocycles—two 90 tons per day, one 70 tons, and one 50 tons—combined daily reducing capacity, 300 tons; Eureka Consolidated, four stone furnaces of 50 tons each—combined capacity, 200 tons daily; Ruby Consolidated, two stone furnaces of 50 tons capacity each—combined daily reducing capacity, 100 tons; Silver West Consolidated, one stone furnace—daily reducing capacity, 50 tons; Matamoras Mining and Smelting Company, one stone furnace—daily reducing capacity, 50 tons; and Hoosac, one stone furnace—daily reducing capacity, 45 tons. The combined capacity of the smelting works in Eureka is 745 tons daily. At the present date three furnaces at the Richmond and two furnaces at the Eureka Consolidated are running, reducing an average of 310 tons of ore daily. This will be largely increased in a few months.

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES*—No. CXLVI.

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HYDRAULIC WORKINGS.

SINKWORKS.—The second mode in which water is used in mining operations depends upon the dissolving power of the water, and such workings are called "sinkworks." These workings are employed for obtaining salt from impure salt deposits, such as salt clays and marls. The earliest examples of this class of workings seem to have been simply pits, or excavations in the ground, which were filled with water. As soon as the water was saturated with the salt it was pumped out, or brought out in buckets, placed in the concentration pans, and precipitated by boiling. The impure or earthy material which was left at the bottom of the pit after removing the saturated water, was raised to the surface, and the pit again filled to a slight depth with water, which was drawn out after saturation. For deposits of no great thickness, which crop up to the surface, this simple mode may still be employed, but where the deposit is of considerable thickness, and overlaid by other strata, a more methodical arrangement must be adopted to obtain a fair proportion of the salt in the deposit. The methods of sinkworks may generally be described as the forming in a regular manner of underground ponds, with a dam on one side, provided with some arrangement for drawing off the saturated water, fresh water being conveyed to the pond from an upper level, and generally entering the pond near the roof on the side opposite the dam. The pond, or "sinkwork" as it is called, may be formed in one or two ways. From a level which is driven in such a direction as to form a diameter or centre line of the sinkwork (according as it is intended that it shall be round, oval, or rectangular in shape) cross levels are driven at suitable distances apart to the boundary of the proposed sinkwork, a sufficient distance being left from the commencement of the centre level to the first cross level in which to introduce a dam.

This is at present the most usual mode of opening out the sinkwork. In other cases it is usual to drive other levels at right angles to these up to the boundary of the sinkwork. In the main or centre level a dam is placed just outside the boundary of the sinkwork. The dam is formed of wood and the clay which is left after the salt has been dissolved out of it. It has been found by experience that in mixing or puddling the clay it is best to use saturated brine, and not fresh water. The water is introduced from the level above along a narrow inclined drift in pipes. The dam is carried up higher than the roof of the levels, The pillars which have been left have the salt dissolved out of them, the clay and other impure earthy material losing thus all cohesion fall to the floor of the sinkwork. As above mentioned the dam is provided with arrangements for letting off the water as it becomes saturated. When the sinkwork has been filled for the first time the water remains till it becomes saturated. As soon as this occurs it is drawn off, the dam closed again, and the sinkwork again filled with fresh water. When the whole of the pillars have been dissolved away the clay impurities on the floor are levelled, and if sufficient is present the sides may also be covered with a thin layer. This prevents the too rapid enlargement of the sinkwork by the dissolving away of the sides. In consequence of the higher specific gravity of the saturated brine this falls to the bottom, and both on account of its diminished dissolving power, and the fact that the bottom of the sinkwork is covered with clay, the dissolving out of the salt takes place chiefly from the roof. Hence the sinkwork enlarges principally from below upwards. The height of the sinkwork is kept approximately the same—viz., 7 ft. to 8 ft.—by levelling the clay and other earthy impurities (called Laist), or by introducing Laist from other portions of the workings.

The general arrangement of the sinkworks amongst each other *in profile* was formerly very irregular, afterwards the arrangement we have previously spoken of as the chessboard arrangement was introduced, to be replaced by the present method, which consists in placing the sinkworks vertically under each other. The arrangement in plan is also kept as regular as possible, the sinkworks being best placed in parallel rows. The sinkworks are commenced from 36 to 46 yards wide, and increase during the working to upwards of 66 yards in width, the centre of two adjoining sinkworks being 132 yards apart, so that when finished a pillar 66 yards in width can be got afterwards. The dissolving out of these large pillars by means of a sinkwork 36 yards in width, commenced in the centre of it, does not entail such a difficulty as might at first be expected, since the worked out sinkworks on both sides are filled to a considerable height with Laist. The thick deposits are worked out in several stages, always commencing with the topmost, and proceeding downwards. Each stage, however, for itself is, as we have explained dissolved out from below upwards. The stages are formed by driving the levels for opening out the different stages 40 to 50 yards beneath each other. The levels are generally driven with an inclination of at least 1 in 30.

In consequence of the more rapid dissolving away of the salts at the upper portion of the work it follows that the sides of the sinkwork are dissolved away more quickly at the upper part than at the lower; this gives the sides an inclination outwards, which is all the greater the richer the deposit. This deviation may amount to as much as 40° from the vertical. On this account care must be taken not to start two sinkworks too near together, since they approach each other as they become higher.

According to the method we have been describing, the water as soon as it is saturated is let off, the sinkwork emptied of brine, and the Laist levelled, and fresh water is again let in, until the sinkwork is full. This method we may speak of as one of alternate filling, saturation, and emptying of the sinkwork. In 1840 Von Roithberg introduced the so called "continuous watering" of the sinkworks, which consists in allowing a small stream of fresh water to flow down the "Ankehrschurf" into the upper part of the sinkwork, whilst an equal quantity of brine is drawn off from a convenient height above the floor of the sinkwork. When continuous watering is adopted the Ankehrschurf is made to lead the water to the middle of the roof of the sinkwork, from which it flows along the roof towards the sides, and is, therefore, always partially saturated, so that the sides are not so readily attacked, and are not so greatly inclined as when the alternate method is adopted. The continuous addition of fresh water in the centre of the roof, and the removal of the brine from a lower level through the dam, is carried on uninterruptedly, until disturbances of the ground take place, or the whole of the thickness up to the next stage has had the salt dissolved out of it. The continual addition of water in the centre of the roof has the effect of making the roof arched, greatly increasing its strength, and thus avoiding, or lessening, the loss which takes place when part of the roof breaks off and falls to the bottom of the brine, which being here saturated leaves the salt in the fallen portions undissolved, these being again covered up by the falling Laist are still further protected from the dissolving power of the water, and a considerable loss of salt results. If the sides of the sinkwork can be kept more perpendicular the form and enlargement of the sinkwork is more under control, and the risks and expense entailed by the water eating through the pillar between two adjoining sinkworks is avoided. The results of practice are very conflicting as to the advantage of the continuous in place of the alternate watering of the sinkwork. The greatest disadvantage of the continuous method is said to lie in the fact that the brine which is drawn off is more or less impure. This disadvantage is, however, readily removed by using some of the old sinkworks as settling pits. With regard to the regularity of the sides of the sinkwork, this seems to be dependant more on the nature of the sides as regards the facility offered for dissolving out the salt than on any special mode of watering.

The construction of the dam varies considerably; an essential difference occurs according to the mode of watering the sinkwork. When the alternate method is adopted the dam must be so arranged that in letting off the brine, in order to keep it clear, the outlet for the brine shall be near the surface of the brine, and shall gradually lower as the surface lowers. This is generally accomplished by building over the outlet pipe (which goes through the body of the dam) a rectangular shaft in solid crib timbering. This shaft is built close up to the underside of the roof each time that the brine is let off, the top being covered over with a flat board. Holes are made in the shaft at various heights, which are usually plugged, but which are opened, beginning with the topmost, as the water is let off, The dam is built with a man-hole, which gives admittance to the shaft. The dam usually serves only to dam back the water from the level, and need not, therefore, be carried much above the height of the level. At Durrenberg the dam is so arranged that access can always be had to the roof of the sinkwork. This is accomplished by taking down the ground over the dam to a few feet higher than the roof of the sinkwork. The dam is built up to follow, not close to the roof above the dam, but so as to leave sufficient space for a man to get over the dam. The dam is built up as the roof gets higher. For the details of the construction and putting up of dams we must refer the reader to the former section on Ausbau.

In order to prevent the roof giving way it is examined each time the brine is drawn off, and any defective parts supported with props or box-timbering. The length of time which elapses before the water becomes saturated is various, and according to experiments and observations by Von Schwind on the working of impure salt deposits in Austria, it appears undesirable to wait till complete saturation before drawing off the water. According to these experiments five times as much salt is dissolved in the first half as in the second half of the time required for complete saturation, and in the last third of the time only one-seventeenth as much salt is dissolved as during the previous two-thirds of the time required for complete saturation. It is proposed by Von Schwind to dispense with the sinkworks altogether, to work the mass out by a pillar and stall arrangement, and to subject the impure salt thus obtained to the action of water at the surface. With this arrangement it was expected that a larger percentage of salt would be obtained.

WASHING

The third method in which water is employed to wash away the material may be denominated washing, and is that which in this country is usually understood under the name hydraulic mining. This method, which is employed chiefly in alluvial ground containing gold, tin, &c., consists in washing away the alluvium from the heavier portions containing the metal. Its apparent prototype is the "hustling," formerly much used in England. The greatest examples of this may be found in the working of the alluvial deposits containing gold in California. The water is led to the workings in a pipe of wood or iron, and very often in elevated timbered aqueducts. From these mains branch pipes are laid to the faces of the work, and the nozzle is connected by a length of flexible hose. The stream of water, which is sometimes under a head of 130 to 150 ft., is directed against the bottom portion of the deposit, which is washed out, undermining the upper portion, which falls down, and is washed out in the tail stream to the dressing apparatus, the latter consisting principally of gently inclined boxed wooden channels, along which the stream flows, depositing the heavier portions containing the gold The success of this mode of mining is dependent chiefly on the pressure and on the size of the jet. The nozzle hole is usually 1¼ in. diameter, and with a head of 90 ft. one man is able to do the work of from 10 to 20 men by the ordinary washing. At first the hose was made of sail cloth, and afterwards of leather. With the great pressures that have been recently adopted it has been found necessary to use iron pipes with universal joints. The great advantages of this method are the non-necessity of transport and the ease with which the overburden can be undermined and washed away. The following, showing the cost of treating 1 cubic yard of alluvium by various processes in 1868, will show the great economy of hydraulic washing:—Panned by hand, 3*l*.; dressed by rocker, 16s.; dressed by Long Tom, 5s.; dressed by sluices, 1s. 4½d.; got by hydraulic washing, 3d,

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

EXPLOSIVE AGENTS APPLIED TO INDUSTRIAL PURPOSES.

At the Institution of Civil Engineers, on Tuesday, (Mr. W. H. BARLOW, F.R.S., President, in the chair) the paper read was on Explosive Agents applied to Industrial Purposes, by Prof. Abel, C.B., F.R.S., Assoc. Inst. C.E., &c. The author pointed out that, since this subject had been brought by him before the Institution in 1872, the advantages of explosives more violent in character than gunpowder for many important industrial uses had become so widely known and extensively utilised that the supremacy of gunpowder, as the only practically useful and economical blasting agent, had for some time been a thing of the past. The greatly superior results furnished by dynamite, guncotton, and other explosive agents of the same class, when applied to work in which their rending and shattering action was valuable, had led to the replacement of powder by them in many directions. It had also had the effect of rendering miners more critical in regard to the quality of blasting powder, a result which had operated beneficially, not only by requiring the bestowal of greater care upon the manufacture of blasting powder, but also by leading to improvements in the nature and form of powder. An improved blasting powder of Messrs. Curtis and Harvey was referred to as an illustration of this. An account was given of the advantages attending the employment of compressed powder, in the form of the charges first devised by Messrs. Davey and Watson, and manufaetured by Messrs. John Hall and Son, which were rapidly coming into extensive use, and which presented unquestionable advantages over granular powder, on the score of convenience and comparative safety, as well as of greater efficiency. Other improvements in the application of gunpowder having been referred to, the author proceeded to examine into the progress which had been made in the production and application of preparations of guncotton and nitro-glycerine, observing that but few of the many proposed substitutes for gunpowder, to which he had alluded in 1872, had received any important applications.

The advantages attending the employment of wet guncotton were described, and the manner in which its detonation was brought about was examined; the theory of the development of detonation, as distinguished from explosion, and of its transmission, being incidentally discussed. Various important technical applications of wet guncotton, dynamite, &c., were referred to, as illustrating the utilisation of the comparatively instantaneous character of detonation. It was pointed out that the safety, power, and comparative simplicity attending the application of wet guncotton to the larger operations for which violent explosives were valuable, had led to its adoption for submarine mines, torpedoes, and military engineering operations generally. On the other hand, compressed guncotton, employed either wet or dry, was now only used to a limited extent as a blasting agent, chiefly in the form of preparations sold under names by which their actual nature was disguised. Thus a variety of nitrated guncotton, converted into compressed charges, similar to the original compressed pure and nitrated guncotton, was supplied to the miner under the name of Tonite, and its employment as an efficient blasting agent was gradually extending. An account was given of the rapid progress which had been made in the application of the nitro-glycerine and Kieselguhr mixture, called dynamate, to the exclusion of other plastic nitro-glycerine preparations. The employment of dynamite upon a large scale was illustrated by reference to the stupendous operations connected with the destruction of the reef at Hell Gate, in East River, New York, when a total of 49,915 lbs. of dynamite and other nitro-glycerine preparations was exploded in one single operation. The objections to the employment of nitro-glycerine in the pure liquid state were pointed out. Reference was made to the tendency of dynamite to freeze, and the necessity for thawing it before use, as a prolific source of fatal accidents in connection with mines and quarries, owing chiefly to the recklessness of the men, and their disregard of caution and instructions. In the course of the paper, the author referred repeatedly, and in strong terms, to the mischievous and frequently disastrous effects of misleading statements with regard to the safety of particular explosive agents, such as the absence of noxious gases in connection with their use, &c., which had, from time to time been published and circulated in mining districts by the manufactu-

rers and vendors, and which not only engendered false ideas of safety, but also encouraged the natural tendency to disregard precautions.

An account was next given of a new class of nitro-glycerine preparations, devised by Nobel, of which the so-called blasting gelatine was the type, and which presented such decided advantages over dynamite in several directions that they had already, to an important extent, supplanted it on the continent, and promised to extend greatly the safe and efficient application of nitro-glycerine. In giving an account of the properties of blasting gelatine, and of certain difficulties which had to be overcome in its application, the author described a series of experiments he had made with the view of increasing the relative power, &c., of the more important explosive agents. Reference was also made to useful practical results which attended investigations on the transmission of detonation to considerable distances. The paper concluded with a review of the beneficial results in connection with the manufacture, transport, storage and use of explosive agents, which had attended the judicious application of the measures included in the Explosives Act of 1875; and with these comments, on the one hand, on the necessity for increased activity on the part of local authorities in some directions in connection with the Act, and, on the other hand, on the danger to the public and to commercial interests resulting from the persistent refusal of railway authorities to facilitate the legitimate transport of explosives.

A FIRE-DAMP INDICATOR FOR MINES.

At the Manchester Geological Society's meeting on Tuesday—Mr. E. W. BINNEY in the chair—Professor G. FORBES, of Anderson's College, Glasgow, exhibited and explained an invention of his own called the "Dampascope," or fire-damp indicator for mines. He said his object had been to devise an instrument simple in its action, and sufficiently portable to be carried into any part of a mine, for the purpose of detecting and indicating the extent of fire-damp should it be existing, and he was sure they would agree with him that if any step should be taken to prevent the occurrence of those disastrous explosions in mines, of which they had had heard so much recently, it would be a great thing. In the instrument he had produced he believed he had found a means of preventing some of these explosions. The principle was this, that when they had a tuning-fork, which was made to sound, its sound might be almost inaudible if in its neighbourhood they had a tube of air, and the lengths of that tube depended upon the kind of air within it; if the air was pure or mixed with fire damp the tube would be of different lengths, and the length of the tube would indicate the quantity of fire-damp. Prof. Forbes then explained the instrument, which, it may be briefly described, consisted of an air tube in connection with a tuning-fork, the length of the air tube being regulated by a wheel. By this wheel the length of the tube was regulated until they got the maximum sound from the fork, and then by an indicator in the instrument the quantity of fire-damp in the air was at once shown. The instrument would indicate fire-damp to ½ per cent., and anyone could readily read the instrument to 1 per cent.

Mr. DICKINSON, Her Majesty's Chief Inspector of Mines, said he had much pleasure in moving a vote of thanks to Mr. Forbes for having come so far to show and explain to them his instrument, and he thought the large gathering which had come to hear him must convince everyone that if there were any instrument or any invention which would conduce to the safe working of mines that those interested in the management would not be slow to avail themselves of it. It might be said that there had been previous workers in the field, and that they had not availed themselves of their inventions; but in these cases the instruments had not been sufficiently reliable or applicable to mines to secure their adoption. But if the instrument which Prof. Forbes had exhibited would do all what he stated and enable them to measure the gas up to one-half or even 1 per cent. it would be a very valuable instrument, particularly in mines where powder was used and there was much coal dust, because it was found in these mines that a very small admixture of fire-damp, which the safety-lamp would not indicate, mixed with coal dust was liable to heat on explosion. Many of the public seemed to think that it was only recently they had discovered in mining that coal dust would aggravate an explosion. It had certainly been brought into prominence of late, but the knowledge of the fact was by no means new. The evil of the admixture of coal dust with a small quantity of fire-damp had been long known, and if they could get an instrument which would indicate the existence of a small quantity of fire-damp there was no doubt it would come into general use.

The vote of thanks having been seconded by one of the members, a short discussion took place in which it was stated that the instruments of this description which had previously been brought forward had generally either been too cumbrous or too delicate for practical work, but the simplicity of the instrument exhibited by Mr. Forbes appeared to commend itself to all, and Mr. Jackson observed that it would be of very great value in such mines as the Wigan Nine Feet, where he had seldom or never seen a "cap" upon the lamp before there was an explosion in the lamp.

THE LONGWALL SYSTEM OF WORKING COAL.

Mr. W. J. GRIMSHAW, F.G.S., next read the second part of a paper prepared by himself and Mr. Herbert Phillips "On the Longwall System of Working Coal." In the course of the second paper, which dealt principally on zones of gas generation, the writer stated that if part of a resisting body were subtracted or extracted the remainder would undergo a more lively molecular action than prior to the weakening. In the post and pillar system part of the coal being substracted the remainder was subject to the sum total of pressure of the upper strata. The result would, therefore, be an increased molecular action and quicker generation of gas. The generation of gas might be said to be influenced by two causes—the removal of lateral pressure and the increase of vertical pressure. This liveliness would continue until a Zero point was reached, which would be when the excess of pressure had forced out all the gas due to its increment, or the pillar had become pulverised to such an extent as not to be in resisting contact to the roof. The zone of gas generation would extend over all the field of pillars left, so that to nullify risk or to dilute to harmlessness simultaneously with generation it was necessary that all the pillar surfaces should be scoured with wind. However large the pillars might be left they would be subject more or less to a proportionate increase in molecular action equal to the increase of pressure thrown upon them. In the long wall system the zone would be limited to a space found on one side by the coal wall, and on the other by that point at which the superpressure had become so great upon the goaf as to resist or subdue the expansive force of the gas. Where the mine was deep and the roof flexible the zone would be small, but where shallow and rocky it would, of course, be larger. Then there was the consideration that if the goaf were open for the generation of gas it would be also open to the circulation of wind. But should the goafs rise to the faces or banks the gas would as generated rise into the air current, and be carried away. Should the goaf dip towards the banks allowance of wind to go up and down the gateway would be necessary. In long wall working the point most to be feared was the upper end of a line of faces.—The discussion in the paper was adjourned until the whole series had been printed, and the proceedings then closed.

STEAM-BOILER EXPLOSIONS.—At the annual meeting of the Manchester Steam Users' Association, on Tuesday, Mr. Hugh Mason, the President, said that though the year had been one of considerable commercial depression it had nevertheless been one of steady progress of the Association, and the committee reported an increase of membership, as compared with the corresponding year, of 70 firms, an increase of 146 works and 294 boilers. The revenue of the year had exceeded that of any previous year. In moving the adoption of the report, the Chairman congratulated the meeting upon the position which the Association occupied. During the year the Board had not neglected the duty in which they had been engaged for some years past of endeavouring to rouse public opinion, and especially the opinion of the owners of steam-boilers to the necessity for some degree of legislative action by which boiler explosions might be very much diminished if not almost entirely prevented. Having referred to the services rendered to the Association by Mr. Hutchinson, M.P., the Home Secretary, Mr. Joseph Cowen, and other members of Parliament, he said it was not likely that during the present year anything would be done in the direction of legislative action. A new Parliament would have to meet, and they hoped—in fact they intended—as soon as it was fairly got into harness to commence action, and put some pressure upon the Home Secretary, whoever he might happen to be, to bring the matter to a successful issue. He pointed out that while the large bulk of boilers under the inspection of the Association were in works connected with the cotton trade the smallest number of accidents took place in them, a fact which said a good deal for the employers and for the intelligence of the men employed. The next class upon the list in that particular was that of the colliery owners. The third had relation to the boilers on board steamships and tugs, and the class of boilers in regard to which the most accidents had happened was that of ironworks. He hoped ere long that they might be able to congratulate the owners of steamships and ironworks that there had been a great improvement in the management of their engines and boilers.—Mr. S. Ruby seconded the motion, which was passed.—Mr. Hutchinson, M.P., proposed a resolution to the effect that the experience of the Association had shown that explosions might in nearly every case be prevented by competent inspection. They considered therefore that the Government should interfere and enforce the general adoption of such inspection, but they strongly objected to inspection being undertaken by the Government lest it should interfere unduly with the freedom of the steam user; and recommended that it should be entrusted to local boards formed by steam users themselves, or to private voluntary inspecting agencies duly authorised and registered. They also recommended the establishment of a court of enquiry other than the coroner's court, and more competent to deal with scientific questions.—Mr. J. Ramsbottom seconded the resolution, which was supported by Mr. A. Holt, of Liverpool.—The Chairman said the Association deprecated, in the strongest terms, Government inspection, either directly or indirectly, as they were persuaded it would interfere with the management of their boilers and turn out to be one of the greatest calamities that could fall upon them. They, however, wanted to go to this extent. They knew there was inspection by an antiquated, inefficient, and ignorant coroner's court when there was loss of life through boiler explosions, and in the first place they wanted a competent court. In the second place they wanted a court to enquire whether a boiler explosion had been attended with loss of life. At present they had no investigation whatever except the voluntary one undertaken by the Association.—The resolution was adopted

THE METEOROLOGICAL SOCIETY.

The usual monthly meeting of members was held on March 17, at the Institution of Civil Engineers, Mr. G. J. Symons, F.R.S., President, in the chair. Sir A. P. Bruce Chichester, Bart., W. H. Cochrane, Rev. H. Garrett, M.A., H. Jones, J. Lingwood, Lieutenant-Colonel L. W. Longstaff, Rev. C. E. Sherard, J. H. Stewart, and Dr. W. J. Treutler, were balloted for and duly elected Fellows of the society.

The following papers were read: 1. "Thermometric Observations on board the Cunard R.M.S.S. Algeria," by Capt. William Watson, F.M.S.—2. "On the Greenwich Sunshine Records, 1876-80," by Wm. Ellis, F.R.A.S.

At 8 P.M. the discussion was suspended in order to afford the Fellows an opportunity of inspecting a large number of new and interesting meteorological instruments which had been brought together for exhibition.

ASSOCIATION OF MUNICIPAL AND SANITARY ENGINEERS AND SURVEYORS.

The members held a district meeting at Dewsbury, in Yorkshire, on Friday. The following delegates attended:—Messrs. E. Pritchard, Westminster and Birmingham (Chairman); John Allison, Manchester; Thomas Brereterton, Haslingden; B. Earnshaw, Ashton-under-Lyne; John Wilson, Bacup; E. Knowles, Accrington; J. M. Jones, Chester; J. Price, Barton-upon-Irwell, near Manchester; W. Wilson, Dalton-in-Furness; Edward R. S. Foscott, Halifax; T. Heywood, Patricroft, near Manchester; Amos Lee, Stalybridge; T. Hewson, Rochdale; E. V. Buchanan Tudor, Goole; J. Mitchell, Hyde; J. Lobley, Hanley; D. Hildred, Batley; R. Vawer, Manchester; Ben. C. Cross, Dewsbury; Graham Smith, general secretary, London; R. King, Barnsley; and Isaac Dixon, London and North-Western Estate Department, Manchester.—The Chairman made a few opening remarks, and then Mr. B. C. Cross was re-elected district secretary.—The General Secretary read a paper "On the Sewage Disposal of West Derby," by Mr. E. H. Allison, who was unable to be present.—Some discussion took place on this paper, after which Mr. Cross read a paper "On the Sanitary Condition of Dewsbury and its Sewerage Works." The members then thoroughly inspected the works, and were generally satisfied with the various novelties which had been introduced into their design by Mr. Cross. During the course of the day the members took a trip in a tramcar drawn by one of Messrs. Merryweather's steam tram-engines, and were accompanied by Mr. Gomersall and Mr. Truswell, the manager of the Tramways Company.

[SECOND NOTICE.]

METALLURGY: THE ART OF EXTRACTING METALS FROM THEIR ORES.

SILVER AND GOLD.—PART I.

In addition to the purely metallurgical facts recorded in Dr. PERCY'S volume, there are innumerable pieces of information of equal interest to the practical man and to the general reader. As an instance of this the article on chloride of silver may be first noticed. Dr. Percy states that he has received from Mr. W. Chandler Roberts, of the Mint, a singular specimen of chloride of silver, resembling horn silver in appearance, which was found after the lapse of about three weeks at the bottom of a vessel containing a strong solution of nitrate of silver, with free nitric acid, to which hydrochloric acid had been added. Again he mentions that so great is the insolubility of chloride of silver that water containing one 113,000,000th part of hydrochloric acid is rendered milky by the addition of nitrate of silver, but when it contains only one 227,000,000th the action is almost insensible. Mulder, however, asserts that silver may be detected by the formation of chloride in water containing at the ordinary temperature one 1,000,000th of its weight of silver in solution, but that it cannot be so detected in water containing half that proportion of silver in solution. Dr. Percy also points out that a striking property of chloride of silver prepared by the usual methods is that of becoming purplish-grey, and ultimately black by exposure to day light. But that which Dr. Percy prepared many years ago by the action of gaseous chlorine on silver leaf does not blacken even on exposure to direct sunshine, and it is now as white as at first. Spiller, however, obtained an opposite result. When chloride of silver is precipitated in intermixture with a small quantity of mercurous chloride, it is not discoloured by light. From the researches on this subject it has been inferred on the one hand that the decomposition of chlorde of silver by sunlight is dichloride, and on the other hand that it is a mixture of metallic silver and chloride.

The modes of formation of chloride of silver being of paramount importance in connection with various metallurgical processes for the extraction of silver from its ores, and from certain metallurgical products, the matter is very fully considered. Upon silver coin and plate Dr. Percy gives several historical extracts from old works, not likely to be within the reach of ordinary readers. He states that in this case the word alloy, or as it was formerly written allay, is technically restricted to the copper with which the silver is combined, and this is also the case with alloys of gold and copper. A chemist would say that standard silver is an alloy of silver and copper, and an assayer or bullion dealer that it is silver containing 18 dwts. of alloy (in the pound troy)—that is, 7·5 per cent. of copper. The term base metal is used as synonymous with alloy in the last-named sense; thus standard silver is said to consist of 37 parts of fine metal and 3 parts base. The word "sterling," as representing our good and lawful money, came "from the Easterlings, or men that came from the east part of Germany in the time of King Richard I., and who were the first contrivers and makers of that allay."

With reference to the ores of silver. Dr. Percy remarks that the composition of native silver seems to have been imperfectly investigated, and of the recorded analyses of it, some of which have been accepted without question, and repeatedly published, are unsatisfactory. Thus Berthier examined a specimen of native silver from a quarry at Curcy, and inferred that it consisted of 90 per cent. of silver and 10 per cent. of copper from its losing 10 per cent. by cupellation and dissolving in nitric acid with the production of blue colour. Field analysed "a natural alloy of silver and copper," stated to have come from a mine about 20 leagues east of Coquimbo, Chili, and 6 from the Cordilleras. It was "perfectly free from oxygen, sulphur, &c., having exactly the appearance of an artificially smelted product from a copper furnace. A bit taken from the centre of a large mass consisted of 98·91 per cent. of copper, and 1·09 per cent. of silver, but the proportion of silver was very valuable; a piece cut from the surface with a chisel, and which had almost a whitish appearance, consisted of 92·4 per cent. of copper and 7·6 per cent. of silver. This superficial silver, it is added, has frequently caused great disappointment among the miners. Forbes states that the native silver of Kongsberg, in Norway, contains 0·4 per cent. of mercury, and Domeyko states that it is not uncommon to find a few thousandths of mercury in the native silver of Chili. By what process of evolution "fabriquée á la surface" became "extracted from the surface," it is difficult to understand, but the reference to Malaguti and Durocher's assertion is not the less interesting. They detected silver in sea water to the amount of 1 centigramme in a cubic metre, and assuming the total quantity of sea water to be 2,000,000 of cubic myriametres, and the proportion of silver to be uniform throughout, they compute the total quantity of silver in sea water to be more than 2000 times the quantity yearly coined upon the surface of the earth.

The section on ores of silver concludes with an interesting notice on the designation of silver ores in South America. The Chilian and Peruvian miners classify all silver ores into "metales calidos," which embraces native silver, amalgam, chloride, chloro-bromide, and iodide of silver, and, in fact, all minerals suitable for direct amalgamation; and "metales frios," or those which cannot be thus directly treated by amalgamation, but require the accessory processes of calcination or of treatment with sulphate of copper, chloride of sodium, and so on. He also alludes to the former throwing away of the "relaves" and their re-treatment, although not with much profit, in 1853 to 1858, explaining the reason of the failure, and giving facts which, as the stuff contains from 50 to 70 ozs. of silver to the ton, will probably be turned to account by some inventive chemico-metallurgical reader

COLLIERY EXPLOSIONS, AND SAFETY-LAMPS.—With a view direct attention to the safety-lamp which he has invented, and which has already been described in the *Mining Journal*, Mr. W. Purdy, of Eastwood, Notts, has written an "Essay on Colliery Explosions and Safety-Lamps" (London: Colliery Guardian-office, Essex-street), in which he has brought together many facts from many sources. These are classified according as they relate to the formation of the earth, the gases found in mines, and so on. One section is devoted to the description of a colliery explosion and the liability to explosion; and another on the necessity for good ventilation. In this many indisputable facts—when man ceases to breathe he dies, for example—are stated, and there is also an account of an explosion which occurred in 1783. He also gives an account of the methods by which ventilation is obtained; and last, though not least, an illustrated description of his improved lamp. The pamphlet is well calculated to attain the object in view.

AID TO SURVEY PRACTICE.—A valuable volume, which will greatly facilitate accuracy and dexterity in surveying, levelling, and setting out, has just been completed by Mr. L. D'A. JACKSON, A.I.C.E., of the Royal Institution (London: Crosby Lockwood and Co., Stationers' Hall-court); and as the author received his instruction as an engineer under gentlemen well known in the profession, and has since had considerable experience himself—one important work in which he was engaged being the levelling operations on the Tumbaddrá Canal, which had in some parts a fall of only 4 in. per mile, and required special care and consideration. Mr. Jackson very truly says that surveying is practical work of a mechanical description that is generally acquired by imitating other persons, and by personal practice and experience; it requires but little skill or science, as it merely demands a thorough practical and theoretical knowledge of method, and a competent facility of execution, combined with care and judgment. He points out the importance to the beginner of personal guidance and the necessity of avoiding both the purely practical and the purely theoretical man as an instructor, remarking that in learning to survey, as in learning many other things, the first and also the most important point is to do it well, the second to do it rapidly; both exactitude and dexterity are inherent individual qualities which may be cultivated to a certain degree, and generally though not always to the extent to make a fairly good surveyor; a want of precision resulting in slovenly and useless work is fatal to good surveying, while an amount of exactitude in excess of the requirements of the case, which causes waste of labour, is merely a result of bad judgment, and may be more easily remedied. Without in any degree ignoring the importance of strictly scientific methods, Mr. Jackson appreciates the fact that many desire to become good surveyors with the smallest possible amount of study of pure mathematics, and he has accordingly written a work which will supply enough scientific knowledge, but no more than is necessary to ensure a thorough comprehension of the method of applying the principles involved to the work to be performed, so that a more generally useful volume could not have been written.

THE UPPER TEN THOUSAND.—The sixth annual edition of this useful and interesting work—that for 1880—has just been issued under the title of Kelly's Handbook to the Titled, Landed, and Official Classes. The volume corresponds as to the particulars given with a Peerage or Baronetage, but includes in one general alphabetical list all persons who have any definite position, arising either from hereditary rank—peers (with their children) and baronets—from any recognised title conferred by the sovereign, from their positions as members of Parliament, or from their being judges, generals, admirals, bishops, governors of colonies, &c., and there are also included deputy-lieutenants and magistrates for the counties of England and Wales, London commissioners of lieutenancy, Queen's counsel, serjeants-at-law, presidents and vice-presidents of learned societies, and the owners of a large number of the principal seats in England, which in the present edition have been nearly all included. As far as can be ascertained from casual testing the work is extremely accurate, as, indeed, might have been expected, considering that every entry has been submitted to the person referred to when they had an address within the United Kingdom. The volume will prove a valuable work of reference to a large number of readers.

"O CONSTRUCTOR."—The first number of an interesting little monthly periodical bearing this title has been issued in Lisbon by Senhores A. A. Corrêa Neves and F. L. T. Castro da Silva (Lisboa: Typ. Casa Portugueza, rua larga de San Roque), specially designed for superintendents of public works, and for constructors and industrials generally. It is intended that all matters relating to civil engineering, architecture, the arts, and industry shall be carefully discussed. The first section of the January number has the commencement of an interesting article—O Canal maritimo de Suez—by Senhor Corrêa Neves, in which there is given an historical account of the project from the time of Sesostris, who, to judge from the paragraphs commencing the third chapter of the memoir, must have lived some time after the discovery of America, to the grant in 1854 of the concession to Mr. de Lesseps, and the surveys for the execution of the canal. This section also contains some useful architectural formulæ. In the second section a brief introduction is followed by the commencement of extracts from the documents relating to the organisation of the public works department in France. The third section consists of industrial notices—The portable electric light for railways, Edison and the electric light, the application of the electric light, and so on—chiefly collected from foreign sources. "O Constructor" promises to be a very useful work for the engineers and industrials of Portugal and other countries using the same language.

Mining Correspondence.

BRITISH MINES.

ABERLLYN.—J. Roberts, March 24: The valley cross-cut is now driven about 15 fathoms. About 5 ft. from the present forebreast we passed through a lode 1 ft. wide, and containing good saving work for lead. The ground is becoming wetter, and more like as though the lode was near. There are still some good faces and veins of lead in the end, which shows clearly that we are in a lead-bearing stratum. In No. 3 cross-cut we have no change as yet; the ground is hard, and the progress is necessarily slow. We are now in about 4½ from the soft lode. The stopes in No. 2 are yielding about 1½ ton of blende to the cubic fathom. The stopes on the soft lode are yielding about 1½ ton to the fathom. The blende sold on Monday we shall weigh off to-morrow.

BEDFORD UNITED.—R. Goldsworthy, March 24: Saturday last being pay and setting day, I beg to hand you the following report:—To drive the 138 east by four men at 10*l.* per fathom; lode 2 ft. wide, worth 9*l.* One stope in the back of this level by four men at 4*l.* 5s. per fm., worth 7*l.* per fathom. One stope in the back of the 127 by six men at 4*l.* 10s.; lode worth 8*l.* per fathom. To drive the 115 east by four men at 13*l.* 10s. per fathom; the lode is 3 ft. wide, the ore-bearing part being 18 in., and worth 7*l.* per fathom; judging from its promising appearance we expect a further improvement shortly. To sink a winze in the bottom of this level by six men at 13*l.* 10s.; lode worth 14*l.* per fathom. One stope in the back of this level by two men at 4*l.*; worth 7*l.* per fathom. Two tribute pitches, one in the back of the 115 by two men at 9s. 6d., and one in the 103 by two men at 10s. in 1*l.*

BELL VEAN.—James Bray, March 20: During the past week we have cut a branch in the cross-cut about 2 in. wide, producing a little tin, but not enough to value. I have got two more men to take on next week. I note that the directors wish the cross-cut driven on with all speed, which shall be done.

BETTWS-Y-COED.—M. H. Whitford, March 24: The lode in the 30 end, east of flat-rod shaft, is from 1½ to 2 ft. wide, and yielding about 12 cwts. of lead per fathom, and an improvement expected shortly; at present the rock is hard. The stope in the back of the 30, west of shaft, will yield from 12 to 15 cwts. of lead per fathom. No change worthy of notice since last report in the two stopes in the back of the 20, east of shaft. The deep adit end, east of engine-shaft, has further improved, entering into a long and valuable piece of ore ground, and yielding from 15 to 18 cwts. of lead ore per fathom. No change from last reported in the stopes in the back of the deep adit and shallow adit levels. We are busy on the dressing floor.

BLAEN CAELAN UNITED.—J. G. Green, March 24: Our stopes have yielded very well for the past week, and I have sampled 20 tons of good quality ore, for sale on the 27th. The cross-cut south of River Caelan is now blue killas country rock, and I would like to have your instructions whether to continue the drivage as a cross-cut or drive east on the course of the lode recently intersected.

BLUE HILLS.—S. Bennetts, March 20: The lode in the 42 east end is divided into two parts, and producing low quality tinstuff. In the 42 west end no lode has been broken during the week. In the 30 east end the lode is worth 8*l.* per fathom, and in the rise over this level it is worth 25*l.* per fathom for length of rise. In the 20 east end the lode is 1½ ft. wide, and producing saving work. The tribute pitches are without much change.

BWLCH UNITED.—N. Bray, March 23: Ritchie's shaft is about 3½ fathoms below the 100, with very fair progress in sinking. The lode in the 100, or bottom level, is opened to 3 ft. in width, with more standing to the south; this drivage is producing a little lead ore, mixed with blende, of promising appearances, and yielding a strong feed of water. The lode in the 80 is 2½ ft. wide, producing saving work for the dressing-floors. The rise above the 70 is carrying a mixture of lead ore, and no doubt will improve as it nears the run of ore ground overhead. The 70 stope is worth about 10*l.* per fathom for lead ore. The surface work is being pushed forward as rapidly as possible, with very suitable weather for the purpose.

BODIDRIS.—H. Hotchkiss, March 24: All operations here are being carried on with the greatest regularity, and progress at each point is satisfactory; there is no important change in the different places calling for special remark. The winze in bottom of the 17 east as well as the 60 east contains a little lead ore.—Meadow Shaft: There is a slight increase of water here which comes from the bottom of the shaft. This is the only change in this part. The 45, east of engine-shaft, is as for some time past. The tributers in the 45 are working regularly.

CARON.—John Kitto and Son, March 22: The sinking of the engine-shaft below the 22 has been continued without interruption during the past month, and very satisfactory progress has been made, the ground being in every respect favourable. The lode in the 22 end driving east looked much better during the former part of the month, but the improvement did not continue long, and at present there is not sufficient ore in the end to value. The lode, however, is stronger than usual and carries a good footwall. The stopes in the 10 and 22 are much the same as they have been for some time past, and are still yielding ore in paying quantities.

CARNARVON.—John Roberts, March 23: The water at Garnon's old shaft is forked 4 fms. below the 20. I expect to be able to connect the next pump below next week, the top of which is in the 26. At the new shaft we have forked 10 fms. The progress here is naturally slow, as the pump is small, and a very large volume of water to pump from. When we get to the 36 we shall not have much else but the shaft to drain, and expect after that to make good progress. At the new trial, on the western ground, we have some strong sulphur and blende, which is a pretty sure indication of copper.

CLEMENTINA.—John Roberts, W. Sandoe, March 24: The rise in back of the 34 is much the same as we reported last week. There is very good lead in both ends, but the middle is rather poor. The sump in bottom of the 15 is much the same—a good branch of ore in one end, and extending a good way over the bottom of the sump. At the roadside shaft we are taking up the water along the bottom of the level, so as to commence stoping. The shaft is deep enough to put an 8 or 9 ft. stope over the bottom of the level.

COMBMARTIN.—T. Harris, T. Comer, March 20: We have to-day re-set the winze to sink below the adit level, on the north caunter lode, by six men, at 4*l.* per fathom, the month; the lode is fully 5 ft. wide, composed of friable quartz and killas, associated with flookan and prian, in which we find good lumps of lead, spotted with Fahlerz ore. The lode has a very fine appearance, which would lead anyone to expect to find a good deposit of lead quickly. The adit level to drive north-west on the south caunter lode, by six men, at 3*l.* per fathom the month; the lode is 4 ft. wide, of quartz and killas, with a flookan leader about 2 in. wide, in which we find good nests of lead—a most encouraging feature. The water in the 17 to-day is about 1 ft. below the back of the level, and we are hoping now we have settled dry weather the level will soon be drained so to enable us to resume the driving of both ends.

CORNWALL GREAT CONSOLS.—Henry Miners, March 23: I feel very great pleasure to again inform you that the mine never looked so promising as at the present time, and we shall soon have the engine-shaft cased and divided from surface down to the bottom level, where we intend to fix penthouse, and also cut ground for bearers and cistern for the fixing of new lift, which will be shortly delivered on the mine from Messrs. Pearce's foundry, Tavistock. When completed we shall commence sinking the shaft, and push it on with all possible speed, as there is every appearance from the way in which the lode is opening out in the bottom level both east and west of shaft that before we reach the point for the driving of a deeper level great and good results will be met with. The lode in the 16, west of shaft, for part carried is from 4 to 5 ft. wide, producing splendid work for tin. The lode in the 16, east of shaft, is still improving as we go east, and is from 5 to 6 ft. wide, producing saving work for the stamps. The lode in the stopes in different parts of the mine is looking very well, and producing valuable work for tin. Our sale of tin last week turned out much better than we anticipated, considering the time we have been at work, and the amount of work to be done before tin could be produced, and the price realised was very good. We shall shortly have another parcel of tin ready for the market. The engine, machinery, and stamping mill are working well.

CROOK BURN.—W. Vipond, March 19: They got the water pumped out of the shaft this week to the bottom, and found the shaft all right, just as it was left when the water got the better of them. The flexible tubing came to hand, but the one for the steam-pipe was too small, consequently they are still in the same position they were with regard to the pump. I expect they will be ready on Monday to commence making room from the side of shaft to fix the cistern, so that they can get the other pulsometer in to begin sinking.

CWM DWYFOR (Brynarian).—J. Davies, March 24: I hope to get the whim at Morgan's shaft fixed to-morrow. I think I can get the 20 driven at £5 per fathom, including all cost.

CWM PRYF.—A. Francis, March 24: I was all through the bargains yesterday, and have to report as follows:—The western cross-cut in the deep adit driving north has intersected the south part of the main lode, and is producing good patches of silver-lead ore in carbonate of lime and quartz. I have ordered the men to drive east on its course, where in 2 or 3 fms. more we shall get under good ore seen in the levels above us, and wrought to surface. The eastern cross-cut driving north, also in deep adit, has intersected some branches of carbonate of lime running in the direction of the main lode, which are letting out a considerable quantity of water, and we are now very near the lode according to all appearances as well as the dialling. These points were of the utmost importance, and the main lode as standing to the north of all our present eastern workings may be considered to be really solved. The stope in back of deep adit, east of Tregoning's rise, has improved, and is worth at present 2 tons, or 25*l.*, per fm. The stope west of ditto is worth 14*l.* per fathom. The stope from 10 to 20 fms. west of rise is worth 18*l.* per fathom. The inclined rise over midway level, and midway between the western pass of Tregoning's rise going up to No. 2 adit is worth 15*l.* per fathom—in very easy ground. The rise and stope west of Tregoning's rise are worth for the length carried, 12 ft., 30*l.* per fathom. As soon as the inclined rise is holed to No. 2 adit, as well as the eastern rise, it will lay open a large piece of profitable ore ground over No. 2 adit for stoping away. Our dressing is now proceeding with regularity, and all estimates made as to time for dressing the first parcel of ore, quantity, profits, &c., will be fully realised.

CWMYSTWITH.—March 24: The 15, to drive east of Pugh's cross-cut on the new lode by the Rock-Drill Lode, is 2 ft. wide, producing good saving work for lead and blende; our progress here during the past month has been impeded, owing to the valves of our air-compressor getting out of order. The 15, west of Pugh's cross-cut on the new lode, is disordered by the soft ground, and is bearing too fast to the south. In Gill's lower level, east of No. 1 winze on the new lode, the lode is 2 ft. wide, and worth 1 ton of lead ore per fathom. In the 12 over Gill's, east of cross-cut on the new lode, the lode is wide, composed of lead, blende, and sulphur; saving work for dressing. The 12 over Gill's, driving east of cross-cut on the new lode, is suspended. In the winze sinking below Gill's lower level on the new lode, the lode is 3 ft. wide, and worth 15 cwts. of lead and blende per fathom, and improving in depth. In the rise over the 15, west of Pugh's cross-cut on the new lode, the lode is 2 ft. wide, and worth 15 cwts. of lead and 1 ton of blende per fathom.

D'ERESBY CONSOLS.—J. Roberts, W. Sandoe, March 24: On the Cobbler's lode we have driven in the past month about 2 fms.—1 fm. north and 1 fm. south of the cross-cut. The indications not being so good on the north side we have now put all the men to drive south. The lode is far more kindly than when we started from the cross-cut, and we can see no reason, either from the appearance of the lode or ground, why it should not make lead, especially when it gets under the extensive workings at the surface. The red lode has been and still is in rather disordered ground, but we hope that the ground will become more settled. The Gorse heading is producing nice stones of lead, and the general appearance is very much improved. Near to Sutton's shaft we have cleared up a shaft on the north and south lode where the former workers seemed to have had a great deal of lead. In the bottom at one point there is a nice rib of lead, but the old men worked it so much out of hand that we cannot follow it without opening the ground.

D'ERESBY MOUNTAIN.—J. Roberts, W. Sandoe, March 24: The stopes in the bottom of No. 5 are without change. As we have reported many times, there is a very large lode and lead throughout, and the quantity of lead will be continually in proportion to the quantity of stuff we can bring to surface. Although we are now working under a disadvantage, yet when we get a communication with the next level we anticipate working on a large scale, which we feel quite assured will give good profits. At No. 2 we have let the stopes on tribute at 6*l.* 10s. per ton of lead, the men to tram their own stuff. The Gorse shaft is down 8 fms.. The water is increasing, and will require pumps directly.

DERWENT.—J. Morpeth, March 22: With this I beg to hand you the list of bargains set here on Saturday last, with estimates of ore, &c.—Jeffries' Shaft, Middle Vein: This vein in the 95 fm. level, east of Jeffries' shaft, is 5 ft. wide: but in the level there is an open flat, containing good ore, causing us to take the level 9 ft. wide, for which width the level turns out 13 cwts. of ore per cubic fathom, or 1 ton 7 cwts. for the full width. The two stopes in the bach of level are each 4 ft. wide; respective yield, 14 and 15 cwts. per fathom. The flats produce 16 cwts. of ore per fathom. The five stopes in the back of the 93, west of shaft, are yielding 14, 18, 18, 11, and 13 cwts. ore per fathom respectively; average width of vein, 4 ft.—Sun Vein: The 70 east upon this vein still holds out hopes of improvement; vein 2 ft. wide, kindly, and worth 11 cwts. ore per fm.—Westgarth's Shaft, Middle Vein: The respective yield of the stopes in the back of the 93 fm. level, east of shaft, is 19, 15, 15, 11, 14, 24, 18, and 18 cwts. ore per fathom; average width of vein, 4½ ft. The cross-cut at this level going towards north vein from Westgarth's shaft was driven 11 fms. last month, and is re-set at the same price per fathom for the next five weeks. It is a fine bold cross-cut, and as straight as a thread. The rise in the back of the 74, at the junction of Middle and Burnshield Haugh vein, is going up by the side of the vein for the sake of dispatch; vein will be stripped down by-and-bye. Very busy in the several departments, and all being pushed on as fast as possible.

DUBBY SYKE.—W. Vipond, March 20: The end driving west from the shaft has been very close and hard this week. It appears to get more so as we get further on. As the men had finished the fathom of ground they took at the month end, I set them another bargain till the end of next week at 14*l.* per fm. It would save a great deal of cost if a water-wheel and pumps were fixed for drawing the water out of this shaft, as it takes a good deal of time to lift it with the jack-roll 16 fms. A 20-ft. water-wheel would pump the water, and need only to be kept going during the day time to do this. The cost of a second-hand wheel and pumps would very soon be saved from the price of driving and lifting the water by hand.

EAST CRAVEN MOOR.—David Williams, March 24: The new shaft is in regular course of sinking below the 54, and is now down 5 fms. on the course of the lode, which is fully 4 ft. wide, worth 2½ tons of lead ore per fathom. A stope in back of level will yield, on an average, 1½ ton of lead ore per fathom. The drivage south-east, upon No. 2 vein, is in from the cross-cut south, at the 42, 4 fms. 3 ft. 6 in., and the north-west end 3 fms, 2 ft., both ends being in a vein 18 in. wide, and producing good saving work for dressing. Other points without any change to notice; and good progress is being made with surface operations.

EAST DARREN.—March 24: In the 104, west of cross-cut, the lode is large and spotted with lead ore, but not sufficient to value. In the 92, west of cross-cut on south branch, the lode is 2 ft. wide, yielding 15 cwts. of lead ore per fathom. In the 92, west of cross-cut on the No. 2 branch, the lode is 3 ft. wide, hard for exploring, and yielding 10 cwts. of lead ore per fathom. In the 50, east of Skinner's shaft, the lode is 2½ ft. wide, disordered, and unproductive. In the cross-cut south of the 56, the ground is composed of a light killas; favourable for driving. The stopes and tribute pitches throughout the mine are without change since last reported on.

EAST ROMAN GRAVELS.—A. Waters, March 24: The lode in the 97, south of engine-shaft, is 4 ft. wide, composed of carbonate of lime, stones of lead ore, and blende, all of a promising character. The 86 south is still going forward in a strong lode, worth 3 tons per fathom. The pitch in back of this level, behind the end, is worth ¾ ton per fathom. The winze in the 75 south, near the end, is going down in a lode, worth 2 tons per fathom. The water is a difficulty in sinking this winze. No. 1 pitch, in the 75 south, is worth 3 tons per fathom. No. 2 pitch is worth 25 cwts. per fathom. No. 3 pitch is worth ½ ton per fm. The two pitches in the bottom of the 50 north are each worth ½ ton per fm. The pitch in bottom of the 46 north is worth 12 cwts. per fathom. We have to-day sold 25 tons of lead ore for 27*5l.*

EAST WHEAL BULLER.—W. Tregay, March 24: We have 18 fms. to cross-cut at the 40 to the Wheal Buller lode, which is entirely unwrought here for 900 fms. in length. The shaft is complete to the 40, and the ground is favourable for cross-cutting. The lode in the surface sinking is of the most magnificent description; a true copper gossan.

FRONGOCH.—John Kitto, March 20: The winze below the 142 is holed to the 154, and has thoroughly ventilated the bottom of the mine, and opened a valuable section of lead ore ground, the ends of the winze being worth fully 2 tons of ore to the fathom; and we expect the 154 end to further improve as it is extended eastward, as the ore ground appears to dip in that direction. We have several stopes and tribute pitches between the bottom of the mine and 90, which are being wrought for lead ore; these are yielding quite as well as they have ever done since we commenced operations, and, in fact, have improved, on the whole, since the date of our last monthly report. Between the 90 and 66 we have not yet explored much, as our attention has been more particularly confined to the levels above and below, where, in our opinion, our best chances lie. Between the 66 and 14 we have laid open several valuable runs of lead and blende ground, and we have no hesitation in saying that our prospects in this section of the mine are very good indeed; in fact, much better than we had any reason to anticipate, the yield of ore being most satisfactory, our sales, particularly for blende, being the best evidence; and, in addition to these, we have large quantities of stuff ready broken for the dressing-floors and lying underground, and large runs of ground laid open ready for stoping, which will enable us, without further discoveries, to maintain our present raisings for a long time to come. We shall sell for the current month 230 tons of blende, which will more than cover all expenses on the revenue account, and shall shortly have another parcel of lead dressed and ready for market.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., March 20: The lode in the 117, east of cross-cut, is 5 ft. wide, chiefly composed of sulphur and arsenical mundic mixed with copper ore, yielding 4 tons per fathom. The lode in the 105 east is 6 ft. wide, yielding 4 tons of arsenical mundic, impregnated with ore, per fathom. The lode in the stopes in the bottom of the 105 east of winze is worth 12*l.* per fm. No. 2 stope, in the bottom of the same level, is worth 14*l.* per fathom. The lode in the 95, west of cross-cut, is 7 ft. wide, yielding 7 tons of arsenical mundic per fathom. The lode in the stope in the back of the same level is worth 8*l.* per fathom.

GLENROY.—R. Rowe, March 23: We have not yet met with anything of importance in cross-cutting the lode in the bottom level north; the cross-cut is in about 4 ft. and we have met with a little blende. I shall continue it till the hanging wall is reached. The south driving is without change. We have completed cutting ground round the shaft at the 108 fm. level, timbered and secured and secured this same; this was necessary before we could commence to sink the shaft. The men will start to sink to-morrow morning.

GREAT DYLIFFE.—R. Dean, March 24: Setting Report: Llechwedd-du: We have driven about 3 fms. of a cross-cut from 105 through to the western side of engine-shaft, so as to get into solid ground in order to commence sinking the shaft, as the lode passes through the shaft at the 105. We shall be ready to make dam, pent-house, &c., in course of this week, and can then commence the regular sinking. It is upwards of 20 years since the last 10 fms. of this shaft were sunk, and looking at the enormous amount of ore this part of the mine has yielded, and also at its present yield, we look forward with great expectations to the further opening out of the mine in depth. The 105 driving east of engine-shaft, by six men, at 100s. per fathom; we have driven 5 fms. during the last four weeks, and we hope to reach the winze, sunk in very good ore from 95, in the course of the next fortnight. The 125, driving west of Bradford shaft, by six men, at 115s. per fathom; distance driven, 4 fms. 2 ft. We have a fine lode here, averaging 2 ft. in width; the last 3 fms. contain very nice spots and strings of lead ore, saving work; there are 30 fms. of backs, and the ground looks sufficiently encouraging to commence stoping when we get increased ventilation. Stoping over 95, west of Bradford shaft, by six men, at 20s. per fathom and 50s. per ton of ore, worth 1 ton of ore to the fathom. The stope in back of 105, east of engine-shaft, by four men, at 30s. per fathom and 70s. per ton of ore, worth about 8 cwts. to the fathom. The stope in back of 15, west of engine-shaft, by four men, at 20s. per fathom and 65s. per ton of ore, worth about 16 cwts. to the fathom.—Dyliffe: The driving in adit level being through, the men, eight in number, are put to strip down the lode at 70s. per fathom, worth about 1 ton to the fathom.—Tributers, Llechwedd-du: We have eight tribute pitches on this lode, set to 23 men, at 100s. per ton of ore.—Dyliffe: We have two tribute pitches on this lode set to six men, at 100s per ton of ore. We have to-day sold 40 tons lead ore at 11*l.* per ton to Messrs. Sheldon Bush and the Panther Smelting Company.

GREAT RETALLACK.—T. Harris, March 22: The lode in the stope below the 53 is not looking quite so good for blende to-day as when last reported on—now worth 4 tons per fathom, but as the lode is subject to changes I think it will soon improve again. The men have sent up a fine pile of work to be broken since last Wednesday. The men in the 30 fm. level have been engaged during the last three days raising the top of the new shaft and assisting the carpenter in erecting a shaft-tackle, to facilitate the drawing of the stuff, which will be done by our present horse-whim, which I hope will be completed to-morrow.

GREEN HURTH.—W. Vipond, March 19: The Swan shaft is at present in the mixture of hazle, grey beds, and plate; beds dipping very much eastward. There is hard stone in the very bottom, which they have not done anything at yet. The shaft is down this morning within a few inches of 11 fathoms. The south end of the 30 is yielding about 2 tons of ore per fathoms; the best is ore setting down in the sole. The east side of the 30, near Robinson's sump, is yielding 4 tons of ore per fathom. No. 1, above the 30, in plate, is yielding 1 ton of ore per fathom, but there may be ore still laying off to the east of this, as the vein is heading very much that way in this stope. No. 2 is still worth 6 tons of ore per fathom in the hazle. There is a slight dropping of water from the roof of this stope this morning; it is very little, and may only be oozing from the hazle, but I should not like to work the stopes to a higher random than this till the Swan shaft is down. We got the steam up yesterday, and the engine seems to work all right. They will be hoisting the legs to-day over the shaft.

GRIFFIN.—Charles Kneebone, March 24: The 15 fm. level continues north-west in a lode worth 1½ to 2 tons of lead ore per fathom; the same level north-east is worth 6 cwts. of lead ore per fathom. The new stope north of shaft is worth 15 cwts. of lead ore per fathom. The intermediate stope, south-east of shaft, will yield 10 cwts. of lead ore per fathom. The drivage south-west from main adit is not producing so much ore this week, but I think the falling off is only temporary. The tribute stopes on the Pen-yr-Allt lode are without material change in value, but the ground is slower of progress; however, we are increasing the output from the extension of ground opened. We have now a fair quantity of this mixed ore selected, but as yet we are unable to treat the smalls, which will probably be 50 per cent of the bulk. We have sufficient water for a couple of Brakestaff jiggers, and those should be obtained and put to work at once. I have to-day explored the old levels in advance of our blende stopes, and find some rich lead along the bottom, while the top appears in placees to be worked up to the roots of the trees for 30 fms. in length. We are now in full operation dressing lead ore for another sampling. Our jiggers do their work splendidly; but we shall replace the present eccentric bands for stronger ones, the engineer having sent the first set too tight. The road is completed down to the brook, where it will join the Aberllyn road, and will be ready for the carts some time to-morrow.

GROGWINION.—John Kitto, Feb. 21: During the past month all our operations, both underground and at surface, have progressed in a very satisfactory manner, and our present prospects are most encouraging. In the deep adit level east the lode has been showing signs of improvement, though it has not been yielding ore in paying quantities, but we are pleased to say that all our other ends have been extended in productive ground quite equal to the average value of the mine, the 80 being worth 15 cwts. of lead ore per ton, the 68, 30 cwts., the 56, 12 cwts., and the intermediate, 15 cwts., and we expect to have a good length of similarly productive ground in advance of each of these levels. The stopes throughout the mine fully maintain their average value, and are yielding the usual quantity of lead ore. Several small branches have been passed through in the deep adit level cross-cut, but the south part of No. 3 lode has not yet been reached. Since our last report we have sold to the Par Smelting Company 100 tons of lead ore, at 12*l.* 15s. per ton, and have sampled another 100 tons for sale on the 29th inst.

HERODSFOOT.—P. Temby, March 24: The 190 north has a little improved, and the ground is better for driving again. We have no other change to report this week. The stopes in the back of the 205 and 190 are looking as well to-day as I have ever seen them. We have sampled this week a parcel of crop ore (computed) 45 tons, the bids to reach the London office on Thursday next. We shall sample our No. 2 parcel and another parcel of crop ore before our next meeting.

HINGSTON DOWN.—T. Richards, March 24: The lode in the deep adit level, east of the south cross-cut, is producing some good stones of copper ore, and is more promising than for the last few feet driven. The ground in the rise against the shaft in the back of the deep adit is a little improved. The sinking of the shaft below surface is still slow, but I hope now we have put in machinery for drawing the water and stuff by horse power instead of manual labour that greater progress will be made.

LADYWELL.—Arthur Waters, March 24: The lode in the adit south of new shaft, continues to look very promising, and I should not be surprised any day to see a good run of ore in the forebreast. The country rock is everything we could wish to see by the side of the lode here.

LADY BERTHA UNITED.—T. Mill, March 24: Good progress is being made in driving the cross-cut adit, and we expect to cut the lode in a few weeks. The buildings are being put in substantial repair, and men are engaged in clearing up the eastern shaft.

LLANDEGLA.—March 24: We are driving on here as fast as the nature of the ground will permit. In the 36, east of whim shaft, the lode is becoming more defined, with a matrix composed chiefly of carbonate of lime, gossan, and blende—a kindly-looking end. The new shaft is going down steadily in much the same ground, laced through with limespar; water is not so troublesome, so that the breaking of ground continues daily.

MARKE VALLEY.—W. George, James Stenlake, March 25: The ground in Salisbury shaft has improved since our last setting, and satisfactory progress is being made in sinking. In the 148 east the drivage is by the side of the lode, where the ground is moderately favourable. We are very much pleased with the progress hitherto made with the the boring machine in driving the 90 west, where the lode is 1 ft. wide, still yielding occasional stones of good quality ore; and although we have not yet anything to value, it has a most promising appearance, and at the present rate of driving we hope soon to get into a more profitable run of ground. The lode in the eastern end from the back of the 40 is worth 1½ ton of ore per fathom. In the 20 end driving west the lode is large, composed principally of gossan, with mundic and spots of copper ore. The stopes throughout the mine are yielding about their usual quantity of ore.

MELLANEAR (Copper).—J. Gilbert, March 24: The lode in the 50, west of Gundry's shaft, driving east of cross-cut, on the south-east part, is 3 ft. wide, and yielding 1½ ton of copper ore per fathom. The lode in the 60, west of shaft, driving east on the south-east part, is 4 ft. wide, and improved to 4 tons of ore per fm., and the ground is also a little better for driving. The lode in the 70, west of shaft, driving east on the south-east part, is 5 ft. wide, and yielding 2½ tons of copper ore per fathom, and a good deal of saving work for blende. The lode in the 70, west of shaft, on the main part, is 2 ft. wide, and yielding ½ ton of ore per fathom. The lode in the 80, west of shaft, is 5 ft. wide, and yielding 4 tons of ore per fathom. The lode in the 90, west of shaft, is 5 ft. wide, and yielding 1 ton of ore per fathom; the ground is a little better for driving, and the lode is improving in appearance. We have just communicated the 100, east of this shaft, with the 100 west from the skip-shaft, and in a day or two, when the men have squared this ground, we shall put the sumpmen to get everything ready as soon as possible to begin the sinking of the old engine-shaft below the 100 fm. level. The lode in the 100, west of Gundry's shaft, is 4 ft. wide, and yielding 1 ton of ore per fathom. The lode in the 110, west of shaft, is 5 ft. wide, and yielding 2 tons of ore per fathom; the men have cut a small vugh in this end, which is letting out a stream of water, and we expect it will lead to an improvement very soon. There is no change in the 70 cross-cut south of the skip-shaft, the cross-course is 5 ft. wide, composed of spar, sulphurous mundic, and spots of lead. All the stopes throughout the mine are quite up to their average yield.

MELINDUR.—John Kitto and Son, March 22: During the former part of the past month we continued to drive the 24, east of cross-cut, on a branch which we intercepted near the end of the level, but as it did not improve we thought it advisable to discontinue the same, and try another branch near the shaft, which, we are pleased to say, so far looks much more promising, and at present shows strong spots of lead and blende ores. We purpose continuing the driving on this for the current month, as there seems to be a fair chance of success, and will further advise you of any important change that may take place.

MONA.—W. Hughes, March 24: I am pleased to inform you that we have now got through the cross-course which we have been driving in for the last 10 fms. at the 55 fm. level Sydney shaft (going east), and have cut the lode, which, as it appears by the short trial we had these last five or six days, is of this same nature as that lying west of the said cross-course. By the present appearance we are inclined to believe that it will yield about 4 tons of ore per fathom. This end is going under the old clay shaft workings, which in former times, in the shallow levels, has been the backbone of the mine for many years. The winze to the west of the tribute bargains has improved this last week; the ground here is worth 4½ tons of ore per fathom. No other change to report on the tribute bargains. All the tutwork is making fair progress. The sinking of the old Blue-stone shaft is going on well, and is within 2 fms. of the required depth. Dry weather sets in, and we are busy preparing the ochres for market; a cargo of about 200 tons of the best ochre will be ready for shipment next week. A vessel has already been chartered for a cargo of 200 tons of bluestone. At the smelting works everything is going on well; we have a parcel of copper regulus estimated at 45 tons, and are now awaiting your instructions to sell.

MONYDD GORDDU.—J. G. Green, March 24: The 34 west is without change to notice since the date of my last report. Progress in this end is not so good as I would wish, owing to the quantity of water issuing from the hard sparry part of the lode. We are certain to have a very rich lode here shortly. The 24 end west men have been engaged in draining and tramming, as we have been winding two stems while the water lasts, so that I have no alteration to notice in the end. The drivage south-west on the caunter branch still carries a nice branch of lead, not quite sufficient to pay for working, but still too promising to abandon. The 12 west is in an improving lode, and from appearances I certainly expect to get into another course of ore shortly. Our stopes are yielding their usual quantities of ore, and very good progress is being made in the dressing department. Our water is getting very short owing to the dry easterly winds now prevailing. I have sampled 20 tons of ore for sale to-morrow, and have commenced carting the same to the station in anticipation of your advice to-morrow of the purchaser.

MOUNT CARBIS.—W. Tregay, March 24: The great flat lode is producing splendid work for tin about 10 fms. from surface. This lode has not been worked on at any deeper point throughout the sett.

NEW CATHEDRAL.—S. Davey, S. Davey, jun., March 25: The lode in the engine-shaft sinking below the 52, is 2½ ft. wide, composed of fluor-spar, quartz, prian, mundic, and also producing a little copper ore. We have set the men a bargain to sink the shaft 8 ft. below this level, cut cistern-plat, bearer-holes, and put in the same; also fix the lift, put in penthouse, bearers, tackle, &c., for sinking the shaft to the 64. The lode in the 52, driving west, is 2½ ft. wide, but at present poor. The lode in the 52 east is 2½ ft. wide, and producing rich stones of copper ore; we expect a change for the better at this point shortly. In the 42, driving west, the horse is becoming smaller, and we expect in a few feet driving the two parts will be together.—Rawson's Lode: In the shaft sinking below the adit level the lode is 2 ft. wide, and worth for the length of the shaft (9 ft.) 6*l.* per fathom.

NEW ST. ANN'S.—Wm. Vivian, March 25: We are getting on very well with the work generally. When the machinery is up for which the company is in treaty we shall soon open up a good mine.

NEW WYE VALLEY.—John Kitto and Sons, March 20: We are pushing on with the new shaft as rapidly as possible, and are pleased to be able to say that very satisfactory progress is being made. A communication has already been opened between the deep adit level and surface, and we have three full sets of men at various points below, between the adit and the 46, all of which are getting on well, and, on the whole, much faster, so far, than we anticipated at starting, and should the same progress be continued the shaft will be completed, and operations on ore ground resumed sooner than we at first expected. But we must again remind you that the ore ground cannot be operated upon in the meantime, and increased sales of lead must remain in abeyance until the shaft is finished, but this will only be for a comparatively short period. Since our last we have sold to Messrs. Vivian and Sons 50 tons of blende, at 3*l.* 1s. per ton, and we shall soon have a parcel of lead dressed and ready for sale.

NORTH D'ERESBY MOUNTAIN.—March 24: The part of lode carried in No. 1 adit end is 4 ft. wide, composed of carbonate of lime, lead, sulphur, mundic, and blende; it is as promising looking lode as any one can see. The lode in the rise in the back of No. 1 adit, north of cross-cut, is 9 ft. wide, worth 20 cwts. of lead to the fathom. The men in No. 2 adit are driving by the side of the lode; consequently there is no change to report in this level. I am pleased to inform you that the contractor is making good progress in building the smith shop and office.

NORTH PENSTRUTHAL.—S. Davey, W. Polkinghorne, March 25: We have commenced opening east and west of Highburrow shaft at the 98, but as yet no lode has been taken up, but will be in the course of another week. The men are still engaged in cutting through the lode in the 88, west of shaft. There is no change in either of the other bargains.

PANDORA.—H. Nottingham, March 21: New Lode: Engine Shaft: We make good progress in sinking, and the lode is regular in width and well mineralised, containing a good deal of sulphur and blende with occasional stones of lead. The 33 is producing stuff mixed through with lead and blende, and looks kindly. Goddard's Lode: We are still getting lumps of lead in the bottom of the 33, but have none in the forebreast yet, but expect to see it open upward as we advance. We have four stopes now working, two on new lode and two on Goddard's lode, which taken on an average will yield 18 cwts. of lead and 1 ton of blende to a fathom. At surface everything is being urged on as fast as possible, and fair progress is made in drawing and dressing. Samples have been sent out to-day of 20 tons of lead and 25 tons of blende.

PANT-Y-MWYN.—Enoch Parry, March 25: No noteworthy change to report report here this week. The work in hand both underground and at surface going on regularly, and fair progress is being made.

PENHALLS.—S. Bennetts, March 20: The lode in the 80 west end although small by the gossan, contains some good tinstuff; and the 80 east end, on the north section of the lode, contains several small veins of tin through a width of 2½ to 3 ft.; altogether saving work for the stamps. The south part of the lode, in the 70 east end, is worth 5*l.* per fathom, and the 70 west end contains a lode 1½ ft. wide, yielding low quality tinstuff. In the 60 east end the north part of the lode is at present small and unproductive. The lode in the 50 west is improving both in size and appearance, and is producing saving work. In the

48 west no lode has been taken down during the week, nor has there been in the 30 west end on the north lode.

PLYMPTON.—H. Miners, March 24: The men are still engaged in driving and stoping on the new south lode, and I am pleased to say the lode has very much improved during the last few days, and should the improvement continue we shall raise from that part of the mine some good work for tin. There is no change to notice in any other part of the mine since last report.

POLROSE.—W. Bennetts, C. Roach, March 24: The standing lift to the 80 was set to work yesterday, and the men having finished their contract, we have set the shaft to eight men and four boys to sink to the 90, at 16*l.* per fathom. This work shall be pushed on as rapidly as possible, and we hope to make good speed in sinking.

ROMAN GRAVELS.—Arthur Waters, March 24: In the 125, south of new engine-shaft, there is a very wide lode, with the biggest cavity in the forebreast that we have ever seen before in Roman Gravels. There are stones of lead and blende mixed with the spar, and we are expecting to see an improvement for lead ore in the lode shortly. The 110 north is without ore to value, but the lode gets wider as the end goes forward. The 110 south is opening out a nice looking orey lode. The 95 south is worth 1¼ ton per fathom. The 80, south of Betton's winze, on the east part of the Roman lode, is worth 3 tons per fathom. The 80, south of winze, south of new shaft, is worth 2½ to 3 tons per fathom. The 65 south is worth ¾ ton per fathom. The cross-cut west, behind the said end, is not yet into the great lode. The stopes throughout the mine are yielding their usual quantities of lead ore.

SOUTH CONDURROW.—W. Rich, W. Williams, H. Abraham, March 24: The lode in the 93 end east is worth 7*l.* per fathom. The stope in the back of this level is worth 15*l.* per fathom. The lode in the 80 is large, and easy for working, but it has less copper in its composition—now worth 15*l.* per fathom. The 80, west of Plantation shaft, is worth 10*l.* per fathom. The 80, east of this shaft, is worth 8*l.* per fathom. In the 70 cross-cut, south and west of Plantation shaft, we have cut a branch carrying rich stones of tin. The winze in the bottom of the 70 is worth 12*l.* per fathom. The rise in the back of this level is worth 8*l.* per fathom. The 70 end, east of King's, is now worth 12*l.* per fathom. We have begun to drive the 60, east of King's; the lode is unproductive at present. The 50 end east is worth 15*l.* per fathom. The stope in the back of this level is worth 18*l.* per fathom. The stope in the back of the 50, east of Plantation shaft, is worth 18*l.* per fathom. The 40 end, east of King's, is worth 12*l.* per fathom. The 30 end east has a kindly appearance.

SOUTH DARREN.—Henry James, March 24: Setting Report: To cut out ground at the 110 for trip-lodge, cistern plat, shaft tackle, and to bring down skip-road to the 110 preparatory to sinking the shaft, by nine men, at 36*l.* per fathom. The 110 end east to drive by six men, at 11*l.* 10s. per fathom; the lode is worth for lead and copper ores 25*l.* per fathom. The 110 west to drive by six men, at 10*l.* 10s per fathom; lode spotted a little with lead and copper ores, but not enough to value. The 110 east from winze to drive by six men, at 10*l.* 10s. per fathom; lode occasionally producing stones of lead. To drive west from winze by four men, at 9*l.* 10s. per fathom; this driving is yet in barren ground, but I expect soon to enter the ore ground gone down in the 100 a little in advance. The 100 end men west to strip down lode to a flat joint, by six men, at 75s. per fathom; near the joint the lode is disordered, and not very good for lead. No. 1 stope in back, by six men, at 70s. per fathom; lode worth 16*l.* per fathom. No. 2 stope, by six men, at 70s. per fathom; lode worth 14*l.* per fm. No. 3 stope, by four men, at 65s. per fathom; lode worth 20*l.* per fathom. No. 4 stope, by six men, at 70s. per fathom; lode worth 8*l.* per fathom. No. 5 stope, by six men, at 70s. per fathom; lode worth 16*l.* per fathom. The 90 end to drive and stope east from winze, by six men, at 8*l.* for driving and 75s. per fathom for stoping; lode in end poor; in stope worth 7*l.* per fathom. A stope in high back, by four men, at 3*l.* per fathom; lode worth 7*l.* per fathom. There are four tribute pitches let in the upper levels to 12 men. Two at 9*l.* per ton for lead and 30s. for copper ores. One at 8*l.* per ton for lead and 30s. for copper ores. One at 7*l.* per ton for lead and 30s. for copper ores; tributers to pay all cost. The filling of the skips, by three men, at 6s. 6d. per 100 skips. The landing, by two men, at 5s. 3d. per 100 skips. The drawing, by two men, at 7*l.* per month. The spalling of the stuff for crusher, by four men, at 10*l.* per month. The 55 tons silver-lead ore sold on the 19th inst. realised 907*l.* 10s.

SOUTH D'ERESBY MOUNTAIN.—W. Bennetts, March 24: I am pleased to inform you that the men are making good progress in driving the 13 south, and in cutting the plat. As soon as the cutting of the plat is completed, which will be the case all being well in about a week from this date, we shall commence driving north. The lode in the engine-shaft is large, and is letting out water freely. The lode in the roof of No. 2 level is 5 ft. wide, and is worth 15 cwts. of lead to the fathom. We have commenced raising stones for the wheel and crusher-house.

SOUTH PENSTRUTHAL.—S. Davey, March 25: Everything is progressing satisfactorily, except the adit level, which is choked, and for the present difficult to get through.

SOUTH TOLCARNE.—W. Rich, J. Knotwell, March 24: There is no change to notice in the 36 cross-course south; the cross-course is regular and well defined, and looking at the adit level we ought soon to cut a lode in the 36 fm. level cross-cut. The copper lode going east is not quite so large as it has been; but there is a branch south that will apparently soon unite with it, which we hope will improve the lode. We are waiting for the sawyers to scantle some timber, preparatory to repairing the capstan, before we can send down the pitwork in the old engine-shaft. We hope to have the capstan rope delivered very shortly.

SOUTH WHEAL CREBOR.—John Goldsworthy, March 24: The sinking of the engine-shaft below the 16 is being forced on with all speed. The elvan, which is hard, renders the progress somewhat slow, but now the elvan is changing, and becoming easier, and is strongly charged with mineral, which I regard as a most favourable indication for the production of mineral. I look forward to good and lasting results on reaching the lode. In driving the 16 fm. level on the caunter lode to intersect the north lode good progress is being made; the prospects are good. The machinery, pitwork, &c., is in good order, and is working well.

TANKERVILLE.—Arthur Waters, March 24: The 220 west is now forth to a lode 2 ft. wide, composed of spar and lead ore, worth 1 ton per fathom, and improving. The 220 east is going forward on the hanging-wall side of the lode, which part is worth 1 ton per fathom. We shall cut through to the full width of the lode here next week, and hope to make an important discovery. There is a considerable stream of water flowing from this end. The stopes in the 220, east and west of Watson's shaft, six in number, are worth together 7½ tons per fathom. In the 206 east we are cutting winze plat, preparing for a winze in a lode worth 3 tons per fathom. The stope overhead here is worth 1½ ton per fm. The 206 cross-cut north, driven about 5 fms., looks like being near one of the side lodes. The tribute department is yielding ore as for some time past. The drift east of shaft, below the 140, is worth 2 tons per fathom.—Pump Sump: We have suspended the 25, east and west of sump, and put the men to stope the back of the level west; the lode is worth 2 tons per fathom. We have this week sold 80 tons of lead ore, for 880*l.*, and 15 tons (No. 2 parcel) for 135*l.*, making together 1015*l.*

TEESDALE.—J. Slack, March 18: West End Forehead: I have had the men trying up into the roof, and have met with a little better ore, though it continues poorest going north, immediately over the forehead. No. 2 stope still continues with little or no alteration; the ore is payable, and makes fair bouse. No. 3 shows a little improvement in the quantity of ore. It looks like getting wider in vein substance. We have had ore 6 ft. higher up in this working than ever we have had it before.—Dressing: We commence loading another 9 tons to Middleton to-morrow (Friday) for market.

TEMPLE.—March 24: The stopes in No. 1 level are yielding fully 1 ton of lead ore per fathom; those in No. 2 and No. 3 are not quite as good as formerly, those in the latter yielding about 16 cwts. and those in the former about 17 cwts. per fathom. The shaft sinking below the No. 1 is on the south side of the lode; the underlie of the lode will bring it into the shaft a few fathoms below No. 1 level. We have commenced to use a rock-boring machine in the cross-cut in No. 2 level, but sufficient has not yet been done with it to enable the agents to report as to its success. The ground in the cross-cut is of a favourable nature for the produce of lead; it is extended in all about 33 ft., and has passed through two small veins of carbonate of lime and spar, and the present end and last 6 ft. driving is full of small strings and lodestuff. The ground is becoming easier for driving.

TYN-Y-FRON.—E. Jones, March 23: We are still working in the second stope west of cross-cut, in which the blende is still holding up, producing about 2½ tons to the fathom, 1½ ton of which is nearly pure.

VAN CONSOLS.—J. Roach, March 24: In the 50, east of Murray's, we are cross-cutting north and south on the lode; we have not yet seen much lead, but expect improvement as we approach the walls. The 50, driving west on north wall of the lode, continued in lead worth fully 1½ ton per fathom up to last evening, but the forebreast is now very much reduced in value; the falling off we believe to be only temporary. This level has now passed through good stoping ground for upwards of 100 yards in length, and we have 40 fms. in height of virgin ground above the level, therefore we have a large quantity of lead already discovered. The winze sinking under the 50 west contains strong cubes of lead. We shall be deep enough 12 fms. to cross-cut the lode in the commencement of the ensuing month, where we expect to discover lead of great importance. The stope in the roof of the 50 west, and contiguous to the shaft, is improving in value, now worth 80*l.* per lineal fathom. The 50, west of Glyn shaft, is still in hard ground; we found a small piece of lead in it this week. No change in the level driving north on the cross-course since last reported. In driving the level north-east from the cross-course I think we have struck the lode to-day; I can see a portion of it 3 ft. in width, which consists of quartz, friable spar, and flook ore, but no south wall has been seen yet. I shall be able to speak definitely on this point about the early part of next week. Tributers are still at work, and sending fair quantities of lead to surface. Dressing is pushed forward as much as possible. We shall send samples of 30 tons of lead to smelters some day in the ensuing week. Machinery all in good order, and work progressing with regularity.

VAUGHAN.—March 24: The 42, east of engine-shaft, has been driven during the past month 3 fms. 4 ft. through a lode yielding occasionally spots of lead and small branches of blende. The 30, east of engine-shaft, has been driven 2 fms. through a lode disordered by cross joints, showing at times nice stones of lead ore, but not sufficient to value. In the eastern stope over the 30 the lode is large, yielding from 18 cwts. to 1 ton of lead ore per fathom. The western stope over the 30 is now suspended, having become poor. The machinery is in good order, drawing and dressing progressing regularly.

WEST CARADON.—N. Richards, March 24: The smith's shop is now ready for the smith. The footway is also completed down to the 38 fm. level, and the men are now preparing to drive the adit level west on Gilpin's lode, which we shall commence driving in a day or two. We have a long run of ground west towards Craddock Moor Mine at this level. Particulars as to size and composition of the lode shall be sent you next week.

WEST CRAVEN MOOR.—David Williams, March 24: The Blackhill adit level is extended east of new Blackhill shaft 116 fms. 3 ft.; the present end is now within a few feet of reaching a cross vein, upon which we purpose cross-cutting north and south to intersect several well known and productive lodes. The metal pitches throughout the mine are yielding ore in paying quantities.

WEST PATELEY BRIDGE.—D. Williams, March 25: Produce of lead ore raised during the week 10 tons. The 67 north-west is extended from the shaft 43 fms. 3 ft. in a vein 2 ft. wide, and producing occasional stones of ore. A stope in back of the level is worth fully 16 cwts. of lead ore per fathom. The 56 north-west is extended from shaft 58 fms. 4 ft. in a vein 2 ft. wide, worth 3½ tons of lead ore per fathom. A stope in back of the level is worth 25 cwts. of lead ore per fathom. A stope in back of the level is in a vein 2 ft. wide, worth 20 cwts. per fathom. No. 1 rise in back of the level is in a vein 2 ft. wide, worth 20 cwts. of lead ore per fathom. The south cross-cut is in from the main level 61 fms.; we are continually meeting with strong branches of spar glazed with spots of lead ore in this end, which are, I have no doubt, fliers off the main lode in advance, and the north cross-cut is in 44 fms. Other points without any change to notice.

WEST POLGOOTH.—T. Wasley, March 23: We are timbering and securing the adit level to take up all the water, so that the men shall not be prevented from clearing the shaft below the adit level. We are putting in ladders and making footway from surface through the engine-shaft to the adit level, and making shaft secure for drawing stuff. We have tinstuff ready for the stamps, and if these were on the mine we could at once return tin. We have a good lode of tin at the 10, and the prospects of the mine are very cheering.

WEST WYE VALLEY.—John Kitto and Son, March 22: The sinking of Brooke's engine-shaft is being carried on uninterruptedly and vigorously; at present it is down 6 fms. below the 64, and we anticipate making good progress in getting it down to the next level, the nature of the rock being favourable for sinking. At this, the deepest point in the mine, the lode fully maintains its size and promising character, and we may reasonably expect it to resume its profitably productive state at an early period. At the 64, east of Brooke's shaft, we are driving a cross-cut south towards the ore-bearing part of the lode, and as we are daily expecting to intersect it we hope soon to report an improvement at this point. At the 64, west of Brooke's shaft, we have a large and well-defined lode, containing lead and blende ores; the accompanying rock is very congenial for the production of large quantities of lead ore. We have sampled 15 tons of lead ore for sale on the 25th inst., and have about 10 tons of copper ore ready for the market, which we shall offer for sale during the present week.

WHEAL COATES.—W. H. Martin, March 23: The water is drained 7 fms. below the 20. Under the 20 the pitwork is only 6-in. bucket, and as we are pumping from a large pool the forking is consequently slow. This week we hope to complete the erection of the capstan. The hot water tube for the miners changing-house is fixed, and the masons are repairing the house. The clearing out of the foundation for the winding-engine and boiler-house will be finished this week. The building of the engine-house will be commenced forthwith. The repairs to the stamping engine boiler is rather slow, owing to the boiler being close to the wall, which prevents the men working to advantage. The carpenters are preparing the pump-rods and cistern for the plunger lift.

WHEAL CREBOR.—John Andrews, Henry Phillips, March 22: Setting Report: To drive the 120 east by eight men, at 10*l.* per fathom, and 5*l.* per cubic fathom for stoping the lode to the north wall; the lode here is 11 ft. wide, and worth for the width 50*l.* per fathom. To drive the 120 west by six men, at 12*l.* per fathom; the lode is worth 30*l.* per fathom. To stope the back of the 120, west of winze, by eight men, at 3*l.* 10s. per cubic fathom; the lode is 14 ft. wide, worth 70*l.* per fathom. To drive the 108 east by four men, at 7*l.* 10s. per fathom; the lode is 5 ft. wide, yielding a little copper ore, but not enough to value. To drive the 108 east on new lode, by four men, at 9*l.* per fathom; the lode is 5 ft. wide, worth 45*l.* per fathom. No. 1 stope, in back of the 108, on new lode, by six men, at 5*l.* per fathom; the lode here is 6 ft. wide, worth fully 60*l.* per fm. No. 2 stope, in back of the same level, by six men, at 4*l.* 10s. per fathom; the lode is 4 ft. wide, worth 25*l.* per fathom. To drive the 72 east by four men, at 5*l.* 10s. per fathom; the lode is 2 ft. wide, composed of quartz, capel, and mundic. To drive the 48 east by four men, at 6*l.* 10s. per fathom; the lode is unproductive. To sink the new shaft below the 48 by six men, at 15*l.* 10s. per fathom; the lode is 2 ft. wide, but poor.

WHEAL GRENVILLE.—T. Hodge, March 22: We have completed the skip-road, and are now drawing stuff from the 178, at Goold's shaft. To-morrow we shall begin to drive north towards the lode; the cross-cut being set to six men, at 6*l.* per fathom. To drive the 165 east, by nine men, at 10*l.* per fathom; lode worth 9*l.* per fathom, and letting out a quantity of water. The 165 crosf-cut north is hard, which impedes progress; set to four men, at 12*l.* per fathom. To drive the 165 west, by two men, at 8*l.* 10s.; lode worth 6*l.* per fathom. Chin's stope, above the 165 east, to 12 men, at 5s. 6d. per ton, worth for tin 9*l.* per fm. Hosking's stope, below the 150 east, to four men, at 3*l.* 5s. per fathom; lode worth 10*l.* per fathom. Rodda's stopes, above and below the 150, to 10 men, at 4*l.* per fathom; lode worth 20*l.* per fathom. Angove's stope, above the 150, to eight men, at 7s. per ton, worth for tin 11*l.* per fathom. Lawrence's stope, above the 150 east, to four men, at 6s. per ton, worth for tin 8*l.* per fathom. The 150 east end is being driven by the boring-machine, and is worth for tin 30*l.* per fm. Woolcock's stope, above the 150 east, is set to 12 men, at 6s. per ton, worth 12*l.* per fathom. Jewell's stope, below the 140 east, to four men, at 6s. per ton; lode worth 12*l.* per fathom. Thomas's stope, below the 140, west of rise, to six men, at 6s. per ton; lode worth for tin 8*l.* per fathom. The 140 to drive east, by six men, at 8*l.* per fathom; lode worth 7*l.* per fathom. Mill's stope, above the 140, to two men, at 5s. 6d. per ton, worth 7*l.* per fathom. James's stope, above the 140 east, to six men, at 6s. 3d. per ton, worth for tin 11*l.* per fathom. Southcott's stope, above the 140 east, to four men, at 6s. per fathom; lode worth 11*l.* per fathom. We have 11 pitches working on tribute, by 22 men, at an average tribute of 11s. 9d. in 1*l.*, to be paid at the rate of 51*l.* 6s. 8d. per ton for black tin.

WHEAL RUSSELL.—John Bray, March 24: The lode in the 55 is still in disordered ground, by the influence of the cross-course. Yesterday we broke some good stones of ore from the lode, which looks promising. No improvement in the 40, east of rise. The lode in the rise above the 55 is worth 25 cwts. of copper ore per fathom, and likely to improve. The lode in the stope below this level is worth 9*l.* per fathom. We have cleared the winze below the 55 to the 70, which will give good ventilation, and enable us to work the stope below the 55 fm. level with far greater advantage. We commenced dressing last week.

WHEAL UNY.—William Rich, Matthew Rogers, March 23: We have begun to sink the incline shaft below the 160, and have set the men to rise in the back of the 172 west to meet this shaft; as soon as a communication is made it will facilitate the opening out the tin ground below the 160 west of incline. The 160 end east on north lode is worth 15*l.* per fathom. We have set a rise in the back of this level; the lode is about the same value—15*l.* per fathom. We intend to sink a winze in the bottom of the 150 to meet the rise as soon as the level is drained; as soon as we make a communication here it will give good ventilation, and open out a valuable piece of ground for stoping. We have laid down good tramroad in the 160 to discharge the stuff. The north lode in the 150, west of junction, is worth 12*l.* per fathom. The lode in the rise in the back of this level is worth 14*l.* per fathom. The 150 (east of cross-cut) on the north lode is worth 7*l.* per fathom. The 130, east of King's, carries stones of tin.

YSTWITH.—John Kitto and Son, March 22: Since our last monthly report all our operations have progressed vigorously and satisfactorily. The new shaft is down about 6 fms. from surface, and we expect to communicate the same with the rise above the adit level before the end of the current week, when the sinking below will be almost immediately commenced, and in all probability will be continued in orey ground, as we had a good bunch of lead almost directly over this point; and in the driving of the adit level the lode was about 9 ft. wide, and worth 2 tons of lead ore to the fathom. We have a set of men opening and enlarging the mouth or entrance to this level, which will when completed greatly facilitate the removal of the leadstuff to the dressing-floors when the shaft is down and driving and stoping resumed, and will enable us to continue the development of this part of the property in an efficient and economical manner. In the western section of the mine the adit level cross-cut is being driven through a beautiful channel of ground, the joints in which carry sulphur, and let out water very freely, which may indicate our near approach to one of the south lodes. In the adit level, east of the above-named cross-cut, we have a large and compact lode, which looks very kindly for an early improvement. There are strong spots of blende in the end, and a splendid piece of highly mineralised ground before it. In fact, our prospects, on the whole, are in our opinion very encouraging.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, March 23: Produce eleven days (first division of March), 10,250 oits.=3971*l.*; yield, 5·3 oits. per ton. Profit for February, 2800*l.* All going on well.

DON PEDRO.—Telegram, Rio, March 23: Produce cleaned up (first division, March), 1850 oits.

Mine captain's letter, dated Feb. 24: General Remarks: A large amount of debris has been cleared from No. 8 old shoot stopes, and there is still a large quantity to remove, but we hope to clear now enough to resume Nos. 2 and 3 stopes sometime to-morrow, the 25th, and intend to draw the remainder of the debris with the ore. The debris, though containing a little gold, is very poor. A large amount of debris has been drawn from the 50 fathom level, so as to prevent a chokage, and stop the ventilation in No. 8 old shoot, and cleared around the nose of the drop-lift, &c. In driving towards No. 1 vein the back and side laths have been removed, sets put in, and another cut nearly completed; so far nothing met with to note. In the 40, to No. 6 shoot, necessary sets put in, the old ones being broken badly, and the back and sides lathed where required. In No. 8, old shoot stopes a prop put under the fourth cap from the breast in No. 4 stope, the cap having been crushed badly whilst the water was in, and the set behind studdled strongly. In No. 1 incline shaft one set put in and cradled up, back and sides lathed, &c., and two props put under caps that were failing below the cistern near the entrance of the whim-shaft. In No. 2 incline shaft one prop put under a defective cap below the 40. In Boa Sera adit six sets put in the entrance, and lathed in places, a large quantity of debris trammed out, and the tramroad repaired, &c. The bridge near the 30-ft. wheel both sides are built with short ends of refuse timber and made secure.—Regos: A breakage on the top rego by the overflow during to-day's storm, which took about four hours to repair, the water rose so as to stop the ventilation in No. 8 shoot stopes. These regos receive daily attention, but the northern embankment is scarcely anything but one continuous ant bank, and giving incessant trouble. The 60-ft. wheel machinery has worked on without any stoppage to note since our last for repairs.

ALMADA AND TIRITO CONSOLIDATED.—Telegram from Mr. Clemes' March 3: One week's run, 83089. I have remitted you ores, 81750.

— Telegram from Mr. Clemes, March 8: One week's run, 83250. Profit for January and February, 82600.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada: Week's run, 870,000, from 1180 tons of ore. Refinery, 842,000.

— R. Rickard, March 3: I beg to hand you a report of the different operations for the past week. The 200 main drift has been extended 25 ft.; the ground in the present end is more broken and favourable for ore. The 200 westerly has been drifted 2 ft., ground still hard. The 200 north-west has been drifted 5 ft., without any change to mention. The 400 quartzite has been extended 59 ft.; work in this drift has been suspended. The 400, north from No. 8 chamber, has been advanced 8 ft. in hard limestone. No. 3 cross-cut on the 400 has been drifted 15 ft.; the present end is in shale, consequently work has been suspended. No. 4 cross-cut has been extended 7 ft., without any change to mention. No. 5 cross-cut has been advanced 11 ft., in the end of which debris has been struck; work also in this drift has been stopped. The 400, north from No. 15, is still in broken ground; during the past week it has been advanced 15 ft. The 600 main drift has been extended 8 ft. in hard limestone. The 600, No. 1 cross-cut, west from south fissure drift, has been advanced 15 ft., without any change to mention. The 600, No. 2 cross-cut, has been drifted 13 ft.; the ground in the present end is very favourable. The winze below the 600, from No. 13 chamber, is down a total depth of 127 ft.; the ground in the present bottom is hard. The winze sinking below the 600, from north fissure drift, is down a total depth of 70 ft., from the bottom a drift has been started on very favourable indications for ore. The 800 west has been extended 25 ft. in very favourable ground. The 900 has been advanced 4 ft., without any change to mention. The chambers are all looking well. No. 11 chamber is very much improved since my last; the drift from the western end has been extended in ore a total distance of 60 ft. No. 13 chamber is opening out very well, and is looking fully as well as it was last week. No. 14 chamber is without any change. Since my last the drift from this has been connected with No. 15 chamber in ore all the distance. This connection opens an uninterrupted ore body from No. 15 chamber, on the 400, to No. 14, a total distance of over 400 ft. horizontally. No. 15 chamber is opening out well and exposes a large body of ore. No. 2 furnace has been closed down for repairs, and No. 3 started this morning. All the machinery, both in mine and smelting works, is in working order.

EBERHARDT AND AURORA.—F. Drake: Progress report for week ending Feb. 28:—Eberhardt and Aurora Tunnel: Distance run to Feb. 21, 5072 ft.; distance run for week ending Feb. 28, 32 ft.; distance run to Feb. 28, 5104 ft.; run for month—February, 122 ft.—Remarks: At this date the rock is breaking a little better. I think we have passed through the ledge matter, and are now running in lime and spar. During the week we have had a small amount of moisture in the seams.

RUBY AND DUNDERBERG.—Eureka, March 6: Dunderberg: In the intermedite there is no change; ore about the same as last week. The upraise from the 400 ft. level has advanced 8 ft.; now 45 ft. Rock still very hard. The Home Ticket cross-cut has advanced 12 ft.; now 93 ft. We had to cut through a hard bar, but the ground is now soft again, and good indications of striking ore soon. At the old stopes on the 350 ft. level we have mined about 20 tons of ore during the week, and ore enough still in sight to more than cover the cost of getting it out; while, at the same time, we are prospecting the ground.—Home Ticket: The roads have so far improved that I think nearly 50 tons have been shipped. No change to note in the state of the mine. At present only four men at work.

CONNOLLY.—J. Potter, March 1: Good progress has been made in the mine during the past week, and more than ordinary success in developing the mineral deposits.—Tunnel Level: The new incline being pushed down at this point is located 25 ft. north-west from the mouth of the main incline, following down on a small feeder of ore branching off from the old ore chamber adjacent to the west of the engine-room. I understand the richest body of ore ever found in this mine was taken from this chamber. These indications are now most favourable to open up another body of similar rock. This incline is down from the tunnel level 26 ft. on ore all the distance, and a well-defined footwall on which the mineral follows. The deposit is 6 ft. wide of good ore in the bottom. We are now shipping, and the sampling tests will better prove the value of this strike. —The 230 ft. Level: The pay streak on this level has reduced itself down to about 9 in., but there is a probability of it opening out at any time. Every available place is full of broken ore waiting for shipment.—The 330 ft. Level: The drift from the No. 2 chamber has been pushed in 8 ft. during the week, making a total distance of 33 ft. to the south-east. About 10 tons of ore have been taken from this drift, which will be shipped and sampled with the balance.—North Winze: At present work is stopped in this winze on account of the ledge pitching away, thus increasing the expense of working by having to handle the ore so often before the car track can be reached. The only and most economical way to run these bottom workings is to sink the No. 3 winze and cross-cut under the ground to develop at depth what appears to be a permanent ledge formation, and no doubt a valuable deposit of mineral is within easy reach of our bottom workings.

ISABELLE.—Lewis Chalmers, March 1: Enclosed please find monthly report (February), showing 231 ft. for the short month. Busy getting in large pipe.—Foreman's report for the month of February: Advance made during the month, 231 ft.; total distance from mouth, 1939 ft.; total distance from monument, 2011 ft. The formation encountered during the month has been quite favourable for blasting, although hard drilling. The tunnel cut several small streams of water during the month, all coming from the north. Powder smoke has retarded the progress, by causing delay in resuming work. As soon as the large air-pipe now being placed in position reaches the face the difficulty will be overcome. There has been no delay caused by breakage of machinery or the severe and stormy weather usual at this altitude this season of the year.

The manager telegraphs (March 24) that during the previous week he had driven 73 ft. of tunnel, and that the total distance in was 2111 feet.

PITANQUI.—T. S. Treloar (Feb. 17) reports that the development of the mine is proceeding satisfactorily. With regard to the immediate development of the Ouro Podre vein he remarks, in continuation of a previous report, that they found this vein at the horizon of the 15 fm. level in the clay formation contiguous to the jacotinga, which formation is drained to the 20, and will they expect ere long be effectually drained to the 30; operations on the vein can, therefore, be resumed at any time. The works in connection with the washhouse are so far forward that in a month from this time they will probably be sufficiently advanced to enable them to commence treating stuff. He had hoped to have this house finished earlier, but the preparation of timber for the mine has interfered with the work. Respecting the horizontal extension of jacotinga veins, the auriferous bed containing them may be a great many fathoms in extent, but the veins themselves rarely exceed a length of 8 or 10 feet, with a varying width of from a few inches to 3 or 4 feet. In a good neighbourhood, however, it is sometimes found that a small vein is quite as productive as a large one, the line of gold being stronger.

BIRDSEYE CREEK.—J. S. Goodwin, Feb. 29: As our water has for a few days past been increasing from the melting snow I thought it best to put off the bank-blast at Waloupa, which I did to-day, using 5000 lbs. of Judson powder, with excellent results. I am in hopes to commence washing at this claim during the coming week.

— J. S. Goodwin, March 7: I commenced washing at Waloupa yesterday morning. At present 1500 in. of water in the ditch. No rain yet, but plenty snow.

VIRNEBERG (Copper).—R. K. Roskilley, March 23: We have commenced to cut plat at the 160, and the men are making good progress. We have driven about 3 ft. in the lode in the 120 cross-cut, east of level, north of shaft, and directly in the forebreast. We have to-night broken some beautiful stones of copper ore—a splendid looking lode. We purpose to cut it entirely through at this point before driving on its course, in order to ascertain its full size and value. We have no other change to notice.

BUENA VENTURA.—March 17: The lode in the 40, driving east of Cox's engine-shaft, is of a promising appearance, consisting chiefly of carbonate of lime, yielding good stones of ore, worth ½ ton per fathom. In the 25, driving west of No. 2 shaft, the lode is very easy for driving through, but it does not contain any ore at present. Satisfactory progress is being made in Cox's engine-shaft, sinking below the 40. In No. 2 winze, sinking below the 10, and valued at ½ ton per fathom, sinking is again resumed; the water is drained by the 25 getting forth under it.

ALAMILLOS.—March 17: In the 20, driving west of San Felipe's shaft, the lode is not yet intersected in this cross-cut. The lode in the 100, driving east of Taylor's engine-shaft, is more open, and has a better appearance. In the 115, driving west of Taylor's engine-shaft, a little ore was taken out a few days ago, but the lode is now poor. The lode in the 100, driving in the same direction, does not contain any ore to value. In the 85, driving west of San Adriano shaft, the lode looks better, and has drained a considerable length of ground westward. The lode in the 60, driving east of San Victor shaft, is producing a little more lead—about ½ ton per fathom. The 70, driving east of San Victor shaft, is hard and unproductive. The same level, driving west of Judd's engine-shaft, is being driven in hard granite off the lode. In Taylor's engine-shaft, sinking below the 115, the men are making good progress. In San José shaft, sinking below the 30, the ground is favourable. The lode in Cristobal's winze, sinking below the 60, is changeable, and is producing good stones of ore; worth ½ ton per fathom. In Alfonso's winze, sinking below the 60, the lode fell off in value last week, but has again improved, and is now producing 1 ton of lead ore per fathom.

LINARES.—March 17: The lode in the 115, driving east of Warne's engine-shaft, and worth 1 ton per fathom, has fallen off a little during the past week. In the 135, driving west of Peill's engine-shaft, the lode is regular and well defined, producing 1 ton of lead ore per fathom. The lode in the 120, driving in the same direction, and valued at ½ ton per fathom, is small, and consisting of quartz and lead ore. The 105, driving west of Peill's engine-shaft, is opening up good stoping ground, worth 2 tons of ore per fathom. In the 135, driving east of Peill's engine-shaft, and producing 2 tons per fathom, the lode is not so productive as it was a few days since. In the 120, driving east of Peill's engine-shaft, a good length of valuable lode is being driven through, worth 2 tons per fathom. The lode in the 105, driving east of San Francisco shaft, is compact and regular, consisting of carbonate of lime and lead ore, now worth 2 tons per fathom. In Warne's engine-shaft, sinking below the 115, there is a large, kindly lode, and yielding fine lumps of ore, valued at 1 ton per fathom. No. 232 winze, sinking below the 105, is going down in a splendid lode, worth 4 tons of lead ore per fathom. In No. 234 winze, sinking below the 120, the lode is compact and regular, being worth 2 tons per fathom.—Quinientos Mine: The lode in the 100, driving east of Taylor's engine-shaft, is of a promising appearance, and yielding good stones of ore. In the 90, driving east of Taylor's engine-shaft, the lode is more open than it was, but does not contain ore enough to value. The lode in the 80, driving east of San Carlos shaft, is small and poor. In the same level, driving east of western boundary, the lode is split into several small branches. The lode in the 55, driving east of the western boundary, is small, consisting of quartz and lead ore.

FORTUNA.—March 17: Canada Incosa: The lode in the 120, driving west of O'Shea's engine-shaft, is unproductive at present. In the 50, driving west of Abercrombie's shaft; lode strong, and yields occasional stones of ore. The lode in the 60, driving west of Abercrombie's shaft, and worth ¾ ton per fathom, has changed unfavourably in the past fortnight. In the 70, driving west of San Pedro's shaft, the lode is large and strong, and yields occasional lumps of ore, valued at ½ ton per fathom. The 80, driving west of San Pedro's shaft, has improved, and is opening paying ground, worth 1 ton per fathom. The lode in the same level, driving east of San Pedro's shaft, and producing 1 ton per fathom, has fallen off in value a little in the past fortnight. There is no improvement in the 70, driving east of San Pedro's shaft. The lode in the 120, driving east of O'Shea's engine-shaft, is more regular than it was, and yields good stones of ore, worth ½ ton per fathom. In the 100, driving east of Lownde's shaft, and producing ¾ ton per fathom, the lode is open, and very easy for driving. The 90, driving east of Caro's shaft, continues small and unproductive. We have commenced the sinking of San Pedro's shaft below the 80, and shall get it down to a new level as quickly as possible.—Los Salidos: In the 175, driving west of Taylor's engine-shaft, the lode is compact and promising, producing 1 ton of lead ore per fathom. The lode in the 160, driving west of Taylor's engine-shaft, and worth ½ ton per fathom, has fallen off in value. In the 175, driving east of Taylor's engine-shaft, the lode is regular, and of a promising appearance, worth 1 ton per fathom. The lode in the 145, driving east of Taylor's engine-shaft, is disarranged and unproductive. In the 130, driving east of Taylor's engine-shaft, the men are put to open the north side, where we expect to find the main part of the lode. In the 120, driving east of San Pablo's shaft, a great length of rich lode is being driven through, valued at 3 tons per fathom. There is no improvement in the 110, driving east of San Miguel's shaft. The 80, driving west of Palgrave's shaft, continues unproductive. The lode in the 80, driving east of Palgrave's shaft, is small and regular, being worth ½ ton per fathom. Roberto's winze, sinking below the 145, and valued at 1 ton per fathom, has slightly improved in the past few days. Loam's winze sinking below the 120 consists of a regular, well-defined, and productive lode, worth 2 tons of lead ore per fathom. The usual weighings of ore were kept up very regularly during the past month, and the stopes throughout the mine are yielding moderately well at present. The ordinary surface work is going on very steadily, and the machinery is in good order. We estimate the raisings for March at 300 tons.

LEVANT.—Not only is Levant rapidly developing into a property of considerable value, but it is now in a thoroughly sound financial position, and is making profits sufficient to admit of the payment of substantial dividends. The returns of ore are increasing, and there is no doubt that at the next account a good dividend will be paid.—*Cornish Telegraph.*

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, MARCH 25, 1880.

IRON.	£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde..	2 15 0–	—
,, Scotch, all No. 1 ...	3 0 0–	—
Bars, Welsh, f.o.b. Wales	7 0 0–	7 10 0
,, ,, in London .	7 10 0–	7 15 0
,, Stafford., ,,	9 0 0–	9 10 0
,, in Tyne or Tees ...	7 10 0–	8 0 0
,, Swedish, London...	11 15 0–	12 0 0
Rails, Welsh, at works ..	7 15 0–	—
Sheets, Staff., in London	11 0 0–	11 10 0
Plates, ship, in London .	10 0 0–	10 10 0
Hoops, Staff.,	10 0 0–	—
Nail rods, Staff., in Lon.	9 0 0–	9 10 0
STEEL.		
English, spring	16 0 0–19	0 0
,, cast	30 0 0–40	0 0
Swedish, keg	15 0 0–	—
,, fag. ham.	16 0 0–	—
LEAD.		
English, pig, common...	17 0 0–17	5 0
,, ,, L.B.	17 5 0–	—
,, ,, W.B.	18 0 0–	—
,, sheet and bar..	18 0 0–	—
,, pipe	18 10 0–18	15 0
,, red	20 10 0–	—
,, white	25 0 0–	—
,, patent shot ...	20 0 0–21	0 0
Spanish	16 15 0–17	0 0
NICKEL.		
Metal, per cwt.	15 0 0–16	0 0
Ore, 10 per cent. per ton.	20 0 0–25	0 0
QUICKSILVER.		
Flasks, 75lbs.,war.(nom)	7 0 0–	—
SPELTER.		
Silesian	20 5 0–20	10 0
English, Swansea	21 0 0–	—
Sheet zinc.....	25 0 0–	—

TIN.	£ s. d.	£ s. d
English, ingot, f.o.b...	92 0 0–	—
,, bars ,, ...	93 0 0–	—
,, refined	94 0 0–	—
Australian	84 10 0–	—
Banca	86 0 0–	—
Straits	84 10 0–	—
COPPER.		
Tough cake and ingot.	72 0 0–	73 0 0
Best selected	73 0 0–	74 0 0
Sheets and sheathing.	77 0 0–	78 0 0
Flat Bottoms	80 0 0–	81 0 0
Wallaroo	80 0 0–	—
Burra, or P.C.C.....	79 0 0–	—
Other brands	75 0 0–	76 0 0
Chili bars, g.o.b.	65 10 0–	—
PHOSPHOR BRONZE.		
Alloys I., II., III., and IV.	...	£123 0 0
,, VI. and VII.		139 0 0
,, XI., Spl. bearing metal		116 0 0
BRASS.		
Wire	8 d.–	—
Tubes	9¼	–9¼d.
Sheets	8¾	–9¼d.
Yel. met. sheath. & sheets	6½	– —

TIN-PLATES.*	per box.
Charcoal, 1st quality ...	1 12 0– 1 14 0
,, 2nd quality ...	1 10 0– 1 12 0
Coke, 1st quality	1 8 0– 1 10 0
,, 2nd quality	1 5 0– 1 6 0
Black.....per ton	17 10 0– —
Canada, Staff. or Gla. at Liverpool	12 0 0– —
Black Taggers, 450 of 14 × 10	30 0 0– —

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, andadd 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—Our markets continue dull, and business, which displayed so much activity until about a month ago, has now become almost lifeless. The attention of traders has been drawn from the general routine of business to the great political strife, and this, combined with the approaching Easter holidays, are the chief causes of our markets being so neglected. Buyers have manifested little or no desire to make purchases, and sellers are effecting contracts at reduced prices. The advices from America showing the trade in that country to remainin a comparatively quiet condition is exercising an adverse influence upon the markets here; nevertheless, there are still some extensive orders being executed for shipment to that continent; and as it is reported that large cargoes of grain are being forwarded here from America, and that the vessels thus engaged will require heavy merchandise as freight for the return journey, it is not improbable that the demand for metals may again be increased, especially for iron, as Scotch pigs and old material seem to be the chief commercial commodities which the Americans require. However, although the reports from America are less promising, still those from Australia are more encouraging, for according to a special telegram lately received from Sydney, the metal trade there is exceedingly active, constant sales of heavy quantities taking place and frequent advances in prices being noted; and the buoyancy is not confined to the metal trade alone, but general commerce participates; and the revival appears to be of a permanent character. The Indian demand for the moment keeps slack, but there is a fair prospect of an improvement, as the crops in that country are reported to be particularly satisfactory. The re-establishment of credit and the cheapness of money must materially assist in facilitating the development of commerce generally, and restoring the markets to their normal condition and former state of prosperity.

The present lull should not, therefore, be interpreted otherwise than a temporary reaction, which was inevitable from the first, considering the sudden and rapid upward tendency in all prices. After so great a rush to buy it is only natural that there should follow a pause, and a desire to realise on the part of those who are able to secure large profits; but although this necessarily produces an immediate effect upon the tendency of prices, yet it in no way affects the recovery of business. The position of metals may be somewhat altered for a time until the extent of the reaction can be pretty accurately discerned, but it is sure to be followed by a greater rebound. If the markets had continued their onward course buyers would not now display the hesitation which is shown, and instead of keeping their orders in abeyance would have readily given them out for execution at present prices. It is to be hoped that no unnecessary importance be attached to the present easiness of the markets, as there is not the slightest occasion to be at all apprehensive about their future welfare. The altogether favourable change in home and foreign affairs, compared with the last few years, fully justifies the maintenance of prices on a higher level than those prevailing during exceptional periods of depression, and which were accepted only under very severe and extraordinary pressure. The condition of agricultural interest in America, Australia, and India, and the improving prospects of those of England and the Continent, must help to give a considerable impetus to trade. Peace and plenty cannot fail to bring about good and prosperous times, and there is every reason to expect that as soon as the holidays and elections are over a great revival will take place. Although the holidays and elections just now interfere with the ordinary business, yet trade will benefit ultimately by reason of the greater circulation of money throughout the country, and the formation of a powerful and approved Government. The relapse will encourage many buyers who operated very successfully a short time since to come forward again with energy and confidence, and it seems exceedingly probable that there will be renewed speculation on a far more extensive scale than ever before. Consumers should now take advantage and buy freely, because they can buy cheaply, and they may rest assured that with peace secured and an abundance of cheap money—with fine and beautiful weather increasing the prospects of a good harvest—traffic and trade will improve as soon as the people resume their regular occupations.

COPPER.—During the week this market has remained particularly dull and prices have been continually tending in buyers' favour, but only few purchasers seem inclined to avail themselves of the reduced rates. Nevertheless, although it is impossible to say how much lower prices may be carried, buyers would do well to take into consideration the advisability of effecting their purchases without delay, for over caution seems just now to be somewhat dangerous, as a legitimate demand for consumption and shipment appears probable before long, and when once this begins conspicuously to manifest itself speculators and investors will doubtless again become eager to make purchases, and prices may be advanced much quicker than what they have been reduced, and as a considerable fall has now been effected, the time may not be far distant when the turn may take place. Holders need not be alarmed by the downward course prices are now taking, for the drooping quotations will probably soon be arrested. At the public ticketing held last Tuesday at Swansea 1244 tons of copper ores, of an average of 9¾ per cent. produce, were sold at an average of 13s. 4¼d. per unit. The charters for the second half of the month are just announced as only 1000 tons, upon which the market has become a shade firmer.

IRON.—Throughout the week this market has kept very quiet, and prices of pigs have displayed a downward tendency. Sellers of manufactured, although at times showing weakness in their prices, have made no alteration in their official quotations. For the present the demand is very much checked for home consumption by the unsettled state of the country through the elections, and for shipments by the reduced requirements for America, but as in course of another month or so these drawbacks may cease to exist, as the elections will then be over, and sufficient time elapsed to permit of a great portion of the recent heavy shipments to America to have worked off, it is not improbable but that a renewed *bona fide* demand will set in, and prices will doubtless not only regain that which they have lost, but will also advance to higher figures, as there is now a good prospect of augmented requirements for India and Australia, both of which markets being conspicuous for taking no special part in the late activity. The electioneering preparations are keeping the markets in the various home districts somewhat unsettled, and through business thereby being slack prices are rather irregular. The Middlesborough market is reported dull, orders being more limited, but it is satisfactory to learn that, notwithstanding buyers limiting their purchases merely to meet their immediate wants, stocks in Connall's store last Tuesday were only 100,231 tons, a reduction of 2689 tons for the week. Quotations are rather variable, some merchants asking 53s. 6d. to 54s. for No. 3, while others are only quoting 52s. 9d. to 53s., and it is stated that 52s. 6d. has been accepted. No. 4 being in somewhat plentiful supply can be purchased at about the same figure, but comparatively only little business is being transacted. Shipments keep fairly satisfactory, the quantity exported from Middlesborough last week being nearly 17,000 tons of pig, and 5000 to 6000 tons of manufactured.

The deliveries to Scotland were also larger than has recently been reported, being 3080 tons, but this figure is only little more than half of those for the corresponding period of last year. There are some fair shipments being effected to America, but the demand for exportation to that Continent has decidedly diminished, and this exercises a rather unhealthy influence upon the home trade. Business in manufactured is also slack, and prices are slightly weaker, shipplates being quoted at 8*l.* 15s. to 9*l.*, bars at 7*l.* 15s. to 8*l.*, angles at 8*l.*, and puddled bars at 5*l.* 12s. 6d. to 5*l.* 15s. The Birmingham trade is said to have undergone little or no alteration. Most of the manufacturers are well employed, but orders are not so plentiful as was originally anticipated. At Sheffield, also, the demand is slackening, and prices for most descriptions of best brands have undergone slight reductions, and many buyers seem inclined to retain their orders in the hope of being able to place them on more advantageous terms than at present. Speculation appears almost to have entirely subsided, and, therefore, there is no excitement upon the markets. The trade in the Welsh districts keeps fairly satisfactory, and prices are well maintained for finished iron, but pigs have receded slightly in value.

Bars and rails are in better request, especially for shipment, and large quantities are being forwarded to the United States. The works for the most part are actively engaged, and extra furnaces are being put in blast. The quietude which marked the course of the Glasgow warrant market last week has continued to be the characteristic feature up to the present time. On Monday the opening quotation was 53s. 3d., but receded to 52s. 7½d., and on Tuesday, owing to some heavy pressure of sales, business was reported down to 52s. 9d. cash, and yesterday the market was very dull, and 54s. 9d. accepted.

SHIPMENTS—FOREIGN AND COASTWISE.

For the week ending March 20, 1880.....Tons	20,987
For the week ending March 22, 1879	11,167

Total from Christmas to date:

1880.	1879.	1878.	1877.	1876.	1875.
166,548	...100,369	... 77,979	... 83,284	... 87,657	...111,278

Furnaces in blast at date:

1880.	1879.	1878.	1877.	1876.	1875.
114	... 89	... 87	... 119	... 119	... 122

Imports of Middlesborough Pig-Iron into Grangemouth:

For the week ending March 20, 1880 .....Tons	3,080
For the week ending March 22, 1879	5,072
Decrease over 1879	6,174

Stock in Connal and Co.'s Glasgow Stores:—March 20, 1880, 441,325; Christmas, 1879, 415,625; Christmas, 1878, 199,417 tons.

TIN.—This week business has been very slack, and prices are considerably below the figures quoted at the end of last week. The official quotation for fine foreign last Friday was 88*l.* to 88*l.* 5s., but now business is reported down to 84*l.* This being a rather heavy fall in so short a time, it is not unlikely but that prices may again soon take an upward turn, as holders will, doubtless, use every effort to retrieve the lost position of the market. It is not unlikely but that the reduced rates may stimulate consumption as well as speculation, and the quietude which is now pervading the market may shortly be succeeded by animation.

QUICKSILVER.—The demand has been slack, but the importer maintains the price, at 7*l.*

LEAD.—This metal continues in limited demand, and quotations for pig are somewhat easier. Nevertheless, the supply is fully maintained, and this, doubtless, tends towards keeping the market depressed.

SPELTER.—There is no change in the position of this market; sellers at times display weakness in their prices, but no alteration has been reported in the official quotations. The demand continues limited for both English and foreign.

STEEL.—Makers for the most part are still busily engaged, but fresh orders are rather scarce.

TIN-PLATES.—What with the falling off in the American demand, and the reduced value of tin, prices for tin-plates continue to tend in buyers' favour, who seem at present disinclined to avail themselves of the fall.

Messrs. FRY, JAMES, and Co.—Continued quiet in most branches of our market has prevailed since our last.——COPPER has been dealt in more or less daily, but on a reduced scale, and at declining rates, the fall in Chilian in the last fortnight having been 3*l.* per ton; and the approach of the holidays, combined with the General Election, will, probably, continue the quiet now prevailing for a little time longer.——IRON is easier to buy generally, and Scotch pig in particular has experienced a fall of 4s. to 5s. per ton altogether.——TIN continues to be dealt in considerably, but still the sellers have preponderated, and hence prices have been declining almost daily.——LEAD has experienced a sharp fall of fully 20s. per ton in the last 10 or 14 days.——SPELTER is quiet, in common with other things, and quoted 10s. per ton lower.——TIN-PLATES are in slack demand.

Messrs. PIXLEY and ABELL—GOLD.—The market has been most inactive since our last. The only arrival to report is a trifling one of 2350*l.* from the Cape; the only shipment being 18,540*l.* to the West Indies. The transactions at the Bank of England have also been unimportant, comprising an influx of 33,000*l.* from the Continent, and a withdrawal of 45,000*l.*, sovereigns, for South America.——SILVER.—For fine bars 52⅛d. was paid at the close of the week, but there was no great demand at this price; the market became slightly weaker on the 22nd, when 52 1/16d. was all that could be obtained, and we give this quotation as the rate for to-day. The only arrivals to report are 51,000*l.* from America, and about 12,000*l.* from Hamburg. The P. and O. steamer leaving to-day takes 130,000*l.* to Bombay.

The approach of the Easter holidays, added to the interest and excitement caused throughout the country by the General Elections, has put a stop to all speculative business for the time; and the MINING SHARE MARKET has been particularly dull; prices rule lower, and are in fact merely nominal. As our report is only up to Thursday evening, many of the usual mining reports due on Friday have not reached us.

TIN mines have been flat generally, and prices in some cases have declined considerably, especially where shares have been pressed for sale on an unwilling market. Carn Brea are quoted 75 to 80; Dolcoath, 54 to 56; Cook's Kitchen, 6¾ to 7¾; Tincroft, 16¼ to 17¼; East Lovell, 1½ to 2; Polrose, 2¼ to 2½; South Condurrow, 10¼ to 11¼; West Basset, 17 to 18; West Frances, 13 to 15; Wheal Agar, 6 to 6¼; Wheal Basset, 3⅞ to 4⅛; Wheal Grenville, 8¼ to 8½; Wheal Kitty (St. Agnes), 4¼ to 5.

Wheal Peevors further declined to 24, and leave off 25 to 27 South Frances, 15 to 16, ex div. at the meeting, in Cornwall, the accounts showed a profit on four months' working of 3601*l.* 19s. 1d., and a dividend of 16s. per share was declared, leaving 2471*l.* in hand. The tin sold (159 tons) realised 8683*l.* 2s. 11d. At North Busy meeting the accounts showed a credit balance of 494*l.* 15s. 11d. East Pool, 28 to 30; at the meeting the accounts showed a profit on the quarter of 7030*l.*, and a dividend of 1*l.* 2s. 6d. per share was declared. Killifreth, 20s. to 25s.; North Penstruthal, 2 to 2¼; Phœnix, 5 to 5½; South Penstruthal, 10s. to 15s.; West Peevor, 8 to 9; Wheal Jane, 4¼ to 4⅜; Wheal Jewell, 17s. 6d. to 22s. 6d.; Wheal Sisters, 4⅜ to 5; Wheal Uny, 4 to 4⅛, West Kitty, 2 to 2¼; the lode in the 72 east is worth 20*l.* per fathom. The lode in the 72 west is worth 8*l.* per fathom. The lode in the 80 fathom level is promising. New Kitty, 1¼ to 1½.

COPPER shares, like all others, are depressed, and it is useless offering them for sale in the present dull state of the market, for when pressed quotations give way. Devon Great Consols, 12 to 13. Wheal Crebor, 4¼ to 4⅜; the ends here are worth 125*l.* per fathom, and the stopes 155*l.* per fathom. It will be seen that these shares are now quoted as 12,000ths, the resolution for doubling the number of shares having been confirmed at the special meeting held for the purpose on Thursday. Bedford United, ⅜ to 1; Carnarvon Copper, 1 to 1⅛; East Caradon, 3⅜ to 4; Hingston Down, 15s. to 20s.; Mellanear, 5 to 5½; Marke Valley, 34s. to 36s.; Parys Corporation, 1¼ to 1⅜; Morfa Du, 22s. 6d. to 25s.; Prince of Wales, 14s. to 16s.; South Caradon, 120 to 130; West Tolgus, 50 to 55; West Seton, 50 to 55; East Crebor, 15s. to 20s.; West Caradon, ? to 2¼; West Devon, 2⅛ to 2⅜. Mona, 13 to 14; an improvement in the 55, east of Sydney's shaft, has been telegraphed.

LEAD.—The rather serious fall in the price of lead, which was quite unexpected, has thrown a dulness over shares, and prices are merely nominal. Van, 17⅛ to 18⅛; Roman Gravels, 10⅞ to 10¾; Aberllyn, 1 to 1¼; Great Laxey, 17⅛ to 18⅛; East Van, 1⅜ to 1⅝; Glenroy, 20s. to 25s.; Herodsfoot, 3⅜ to 4⅛; Leadhills, 3⅛ to 3⅜; North Herodsfoot, ⅛ to ⅜; Pateley Bridge, 15s. to 20s.; West Assheton, 2 to 2⅛. Tankerville, 4¾ to 5; the 80 tons of best ore and 15 tons second quality realised 1015*l.* An improvement is shortly looked for in the 220 east. East Roman Gravels sale of 25 tons of lead ore realised 11*l.* per ton. The 86 south is in a strong lode, worth 3 tons per fathom. Winze in 75 south worth 2 tons per fm. Pandora, ⅛ to 1; the sampling here is 20 tons of lead and 25 tons of blende. Lead Era, 1⅜ to 1⅝; Derwent, 3½ to 4; Gorsedd and Merllyn, 2 to 2½; Minera, 11 to 12; Pennant, 2½ to 3; Pen-yr-Orsedd, 1¼ to 1⅜; Port Nigel, 2¼ to 2⅜; South Darren, 3 to 3½; United Van and Glyn, 15s. to 20s.

Caron, 1⅜ to 2¼; Crosswood, ½ to 1. Frongoch, 5 to 6; this mine sold 100 tons of blende at 3*l.* 16s. per fathom, and has sampled a further 130 tons for sale on the 30th. Grogwinion, 3½ to 4; the sampling here is 100 tons of lead ore for sale on the 29th. Hartington Moor, 1 to 1⅛: Mawston, 1 to 1⅛; Red Rock, 1⅛ to 2; West Wye Valley, 1 to 2; New Wye Valley, 1½ to 1⅝; Ystwith, 1¼ to 1⅜; West Chiverton, 20s. to 25s.; West Holway, 27s. 6d. to 30s.; Gwernymynydd, 5¼ to 5⅜. North D'Eresby, ⅛ to 1⅛; the part of the lode carried in No. 1 adit is 4 ft. wide, and very promising; lode in back of No. 2 worth 20 cwts. of lead per fathom.

FOREIGN MINES.—Almada and Tirito, 10s. to 15s.; Cape Copper, 27 to 29; Colorado, 2⅜ to 3; Don Pedro del Rey, 20s. to 25s.; Eberhardt and Aurora, 4¼ to 4⅜; Flagstaff, 2⅜ to 2⅝; Frontino and Bolivia, 3¼ to 3½; New Quebrada, 3⅜ to 3½; Panulcillo, 4⅜ to 4⅝; Richmond, 13⅜ to 13⅝; Copiapo, 11½ to 12½; Canada Gold, 1¼ to 1⅜; Consolidated, 17s. 6d. to 20s.; Exchequer, ⅛ to ⅜; Glenrock, 1⅛ to 1⅛; Hultafall, 2 to 2¼; Canadian Copper, 2½ to 2⅝; Javali, 7s. 6d. to 10s.; Last Chance, ¼ to ⅜; Nouveau Monde, 1½ to 1⅝; Port Phillip, 9s. to 11s.; Richmond, 13⅜ to 13⅝; Ruby, 5¼ to 5⅜; St. John del Rey, 245 to 255; Santa Barbara, 2¼ to 2½; South Indian, 1¾ to 2.

The Market for Mine Shares has been in a fluctuating and unsatisfactory state throughout the week, for although a considerable number of transactions have taken place sellers have almost invariably had to accept lower prices. Many causes have contributed to this—the holidays, the approaching elections, and especially the discouraging prospects of the markets for ore. A further drop in the tin standards is expected in Cornwall, copper is weaker, and the parcels of lead ore sold during the week have realised lower prices. But it is pretty confidently expected that should the elections be satisfactory there will be a general recovery, for the fact is not lost sight of that present prices would have been considered highly satisfactory six months ago, and that the improvement in business, which the mining interests were the first to receive the benefit of, is now gradually, but certainly, extending itself to all branches of industry. Dulness during the next three weeks may reasonably be anticipated, but thenceforward a general and considerable advance may fairly be looked for.

Nouveau Monde, 1¼ to 1⅜; the news of the defeat of the revolutionists by President Guzman Blanco has been received both here and in Paris with satisfaction, as it is believed that a long era of peace may now be in store for Venezuela. The Trinidad Chronicle of Jan. 19 refers to the gold fields of Venezuela, and mentions the fact that preparations were being made to recommence working the long abandoned mine of Nacupai with 60 stamps belonging to the Nouveau Monde Gold Mining Company, whose agent (Mr. Oxland) writes that he started from Trinidad on Feb. 27 to assume control of the company's properties.

Consolidated Mine, ⅜ to 1; but very little doing, the principal transactions consisting of realisations by holders who are somewhat disappointed at the non-receipt of fresh news. It is stated, however, that private letters from the district continue to describe the prospects of the company as encouraging, and the existence of a large body of ore in the immediate vicinity of the tunnel is firmly believed in.

Colorado United, 2¾ to 3; these shares are reported to remain in quiet demand, and it is mentioned that this company owns no less than 30 mines. The recent discoveries by the lessees are said to have caused a general demand by miners for work on the royalty system.

Empire Summit Gold, 2 to 2¼; the directors are informed by telegram of the dispatch of four affidavits by gentlemen of position, having a good knowledge of the mine and district, all confirming the statements contained in the prospectus. These papers are due in London about April 3.

Missouri Lead, 10 to 11; the manager, March 8, reports—"In the drift we are driving south from Master shaft towards Dutch shaft; the rock presents a more genial formation for mineral bearing ground. The lode has come in larger, and the indications are that a short distance further south we shall get out of the disordered ground, where the lode split, and that the branches will unite. The machinery is working in the most satisfactory manner, and as our miners become accustomed to the use of the rock-drills from day to day they are making better progress. The 174 ft. level in the St. Clair shaft has been put in thorough order, and stoping has been commenced; we are now taking down mineral, and as soon as our hoisting engine at this point is in operation we shall commence raising the ore to surface. The work connected with this shaft is going forward as fast as we can push it."

Richmond, 13⅛ to 13⅜; the usual telegram from the mines at Eureka, Nevada, states that the week's run was $70,000, from 1180 tons of ore. During the week the refinery produced doré bars to the value of $42,000. The manager (March 3) in reporting upon the various points of operation states that the winze, sinking below the 600 from north fissure drift, is down a total depth of 70 feet from the bottom; a drift has been started on very favourable indications for ore. The chambers are all looking well. No. 11 chamber is very much improved since my last; the drift from the western end has been extended in ore a total distance of 60 ft. No. 13 chamber is opening out very well, and is looking fully as well as it was last week. No. 14 chamber is without any change since my last; the drift from this has been connected with No. 15 chamber—in ore all the distance. This connection opens an uninterrupted ore body from No. 15 chamber on the 400 to No. 14—a total distance of over 400 ft. horizontally. No. 15 chamber is opening out well, and exposes a large body of ore. All the machinery both in mine and smelting works is in working order. The Eureka Daily Sentinel, of Feb. 29, says—The developments of this property during the last six months are simply marvellous. It is no secret that the mine is looking better at the present time than ever before in its history. From the 200 ft. level, along down to a point far below the 600, there is such a mass of choice ore as was never disclosed, to our knowledge, anywhere in any mining property in the United States. The Richmond bonanza has a demonstrated depth of over 400 ft., and at such points as cross-cuts have been run it is shown to have a width of more than 200 ft.—that is to say, they have a column of ore approximating 500 ft. in height by 200 ft. in width. The ore is of a much higher grade than has hitherto ruled in the mines of Ruby Hill, running on an average (say) $80 per ton. The body, as a whole, is also freer of waste than usually obtains. There is ore in sight to run the furnace at their fullest capacity for more than two years.

Ruby, 5⅜ to 5⅝; The report in another column is still ante-dated to the discovery lately telegraphed that in the 400 feet level there is a deposit of ore 10 feet wide worth $50 per ton. It is reported that some of the large shareholders during the week have had the mine inspected, and a telegram "has been received confirming all that has been said of the mine and stating that the ore is rich in quality and looks like permanence."

Hultafall, 2 to 2¼; The mine is producing the usual quantity of ores of blende and lead, and dressing has been commenced both in the upper and lower mill.

In Lead Mine shares there has been a general falling off, and the miners are receiving lower prices for their ores. The quotations are entirely nominal. Mona, 13 to 15; a telegram has been received at the company's office from the mine announcing an important improvement in the 55, driving east of Sidney's shaft, where good copper ore is coming in. This is stated to be quite a new discovery, and situated a great distance from that under the open-cast at the 55, at Cairn's shaft.

Gwernymynydd, 5¼ to 5½; the agent's report states that workings will be commenced in the course of next week both in the lower and upper flat.

Grogwinion, 3½ to 4; the monthly sale of 100 tons of lead will, it is said, take place to-day. The manager's report states that all operations both underground and at surface are progressing satisfactorily, and present prospects are encouraging. The mine is opening up rather more productively than usual, and the stoping ground is yielding a full average of ore, whilst the deep adit level is improving, and likely soon to become productive.

Frongoch, 5 to 6; it is reported that 100 tons of blende were sold on the 20th; a further parcel of 130 tons will be sold next Tuesday, and a parcel of lead will follow quickly. The monthly report states that good progress has been made in the bottom of the mine, the communication between the 142 and 154 having been completed, thus thoroughly ventilating the deepest workings. The lode at this point is rich, and a valuable extent of head ground is rendered available for working. Other points in the mine are doing well, and particularly in the shallow levels, where good discoveries continue to be made at almost every point of attack. The managers state that between the 66 and 14 fm. levels they have laid open several valuable runs of lead and blende ground, and the prospects in this section of the mine are very good indeed. They have large quantities of stuff ready broken for the dressing-floors, and lying underground, and large runs of ground laid open ready for stoping, which will enable them without further discoveries to maintain present raisings for a long time to come.

New Wye Valley, 1¼ to 1¾; The sinking of the new shaft progresses rapidly,

and all other operations also. A parcel of lead will be sold shortly. West Wye Valley, 1 to 2; a parcel of lead was sold yesterday, and a parcel of copper is just ready for sale. The shaft is now sunk 6 fms. below the 64, in a good lode, and it is expected soon to resume its productive character. Ystwith, 1¼ to 1¾; the manager's report is of a cheering character, and is considered to show that considerable progress has already been made in the short time the works have been in operation. The new shaft is already down about 6 fms. from surface, and is expected to communicate with the rise above the adit level before the end of the current week, when the sinking below will be almost immediately commenced. A good bunch of lead was discovered over this point, and in the driving of the adit level the lode was about 9 ft. wide, and worth 2 tons of lead ore to the fathom. The entrance to this level is being enlarged, so as to facilitate the removal of the leadstuff to the dressing floors when the shaft is down, and driving and stoping resumed. Red Rock, 1½ to 2; 30 tons of lead have been sampled for sale. The mine is reported to look well.

[The closing quotations being given in the Share-List on the last page of the Journal it is unnecessary to repeat them here.]

At Swansea Ticketing, on Tuesday, 1244 tons of ore of 9¼ average produce, and containing 116 tons 8 cwts. of fine copper, were sold for 7776*l.* 12s. 6d., being 6*l.* 5s. per ton of ore, 13s. 4¼d. per unit, or 66*l.* 16s. per ton of fine copper in the ore, and an average standard of 92*l.* 7s. 9d. for 9 per cent. produce. Subjoined are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Feb. 24.....	1185 ...	£92 13 2	... 7½	... £4 13 11	... 13s. 4d.	... £65 2 8
March 23	... 1244 ...	92 7 9	... 9¼	... 6 5 0	... 13 4¼	... 66 16 0

Compared with the last sale, the decline has been in the standard 5s. 6d., and in the price per ton of ore about 6d. The Caveira ore gave 8⅜ produce, and realised 13s. 4¾d. per unit; Betts Cove, produce 6½, per unit 13s. 3d.; Telhadella, produce 14⅜, per unit 14s. 3⅜d. There will be no sale on April 6 The Cape Copper Company will appear as bidders in the Ticketings after the usual lapse of one month.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W. ABBOTT, of Tokenhouse-yard, are given in tabular form in the last page of the Journal.

GAS SHARES.—The principal business in these shares, according to this evening's report of Mr. W. L. WEBB, of the Stock Exchange and Finch-lane, has been in Bombay, 6; Continental Union, 19¾; European, 18¾ to 19; ditto, new, 8⅝ to 9; Gas Light, A, 176 to 178; fifth issue, 16⅞; ditto pref, 208; 4 per cent. debenture, 100 to 100¾; Imperial Continental, 180 to 181½; Rio de Janerio, 25¾ to 26¼; Phœnix, 37; Metropolitan A, 202 to 202½. For closing prices see list on last page of Journal.

INSURANCE SHARES have, according to this evening's report of Mr. W. L. WEBB, of the Stock Exchange and Finch-lane, been dealt in as follows:—Alliance, British and Foreign, 33½; Commercial Union, 19¾ to 20 ex div.; London and Provincial Marine, 4⅜; London, 63; Indemnity, 101; Marine, 83¾; Merchant Marine, ½; North British and Mercantile, 49¾ to 50; Pelican, 62½; Imperial Fire, 152½ to 153; Royal Exchange, 406 to 408; Ocean Marine, 7¼; Provident Life, 36½; Royal Passengers, 7¼ to 7½ ex div.; Universal Marine, 12¼ to 12⅝. Little business doing. Insurance shares are firm. For closing prices see list on last page of Journal.

Mr. Edward Ashmead has removed his office from 62, Cornhill, to 2, Drapers' Gardens, London, E.C. The registered office of the companies he represents—North Penstruthal, South Penstruthal, New Cathedral, &c.—will also be at the latter address.

Mr. John H. Tilley (Messrs. Tilley and Co.) has been appointed official liquidator of the Dominion of Canada Plumbago Company, of the Colombia Chemical Factory Manure and Phosphate Works, and of the London and Suburban Co-operative Meat Supply Association.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Mining in Ireland—Conversations between Father and Son, XI.; Mining in Ireland (W. Thomas); Improved Safety-Lamp; Winding Engines; Sorting Minerals and Coals; the Gold Mines of Brazil (W. Tregallas); Proposed Lead Syndicate; Silver Mining in Nevada—the Richmond District; Flagstaff Silver Mining Company; Mining on the Pacific Coast (A. C. May); Burnhope Lead Mine—Perseverance Rewarded (D. Brown); Changes in Prices of Tin (W. Tregay); the Roche Mining and China-Clay District (R. Symons); Mushroom Mines, and East and West Chiverton; West Polgooth Tin Mines; Wheal Uny (W. Rich); North Laxey Mining Company; Cardiganshire Mines; the Devon Copper and Blende Company (R. G. Smith, W. B. Skewis); West Devon Great Consols. West Kitty Mine. Meetings of Public Companies: Heberlein Brake, Van, West Kitty, Bwlch United, North Busy United, East Pool, South Wheal Frances, Old Gunnislake, Gawton Copper, and Canadian Copper and Sulphur. San Pedro; Richmond Mining Company. Foreign Mining and Metallurgy. Registration of Public Companies. Compressing Artificial Blocks. Utilising Spent Iron Oxide, &c.

DERWENT.—There are several improvements at this mine. The 95 fm. level, east of Westgarth's shaft, is worth 1 ton 7 cwts. of lead ore per fathom; and the Sun vein at the 70 is worth 11 cwts. per fathom. They are rising by the side of the Burnshield Haugh lode from the 74, and will take down the lode by-and-bye, when something good may be found. The cross-cut at the 95 to the north lode is progressing rapidly.

WEST PATELEY.—The lode in the 56 north-west maintains its masterly character, producing over 3½ tons of lead ore per fathom. All other points of operation are looking equally as well as for some time reported. In the cross-cut south there are indications of the close proximity of the rich Stye shaft vein.

BRYNARIAN.—The Cwm Dwyfor Company have arranged to complete the trial at Morgan's shaft on the Pensarn part of this sett, and, as will be seen by the report in another column, operations have been commenced during the past week.

EAST CRAVEN MOOR.—The reports from this mine for some time past have been very favourable; that given this week is highly encouraging, the new shaft or eastern part of the mine being especially so. Should the lode continue in which the new shaft is sinking for a few more fathoms in depth this mine should enter the Dividend List ere long. The lode in bottom of the shaft is reported worth 2½ tons of lead ore per fathom.

CARNARVONSHIRE LEAD MINES.—The Llanrwst Lead Mine has just sold 50 tons of lead, which realised 10*l.* 5s. per ton, and was bought by Mr. Adam Eyton. Another parcel is being prepared for market, and it is confidently believed that regular sales of 50 tons per month will be made. As soon as the mine is sunk a few fathoms deeper, and another level driven under those which have already proved so productive for lead the monthly output can be increased to 100 tons of lead per month.

WEST DEVON GREAT CONSOLS.—It is understood that a very considerable business has been transacted in these shares this week, not only in the Mining Market, but also on the Stock Exchange. The close proximity of the property to Devon Great Consols, the value of the work done on the mine, and the improvement in the lode now being worked upon (and which it is fully calculated will continue to improve and lay open a great body of ore) are facts which are very naturally attracting the attention of those who remember the remarkable results which resulted from the similar discovery on the lode in the adjoining mine of Devon Great Consols 35 years ago.

WEST KITTY.—On the 24th the agent writes that he has settled about the additional stamps, and that he has agreed to give the party interested 36*l.* in all. The company takes possession at once. With an outlay of about 100*l.* more he will be in a position to return 5 tons of black tin per month, and from present prospects that quantity will soon be returned. The prospects continue excellent.

PORT NIGEL.—This mine may now be said to be in a fair way of working again. The 56 fathom level is now clear and the end being driven in a lode valued by the late Capt. Williams of the Van Mine at 30*l.* per fathom. The 68 fathom level is now entering the run of lead ground. A cross-cut to intersect the north lode about 15 fathoms distant has been commenced. Should this lode equal the engine lode in productiveness the mine will speedily become one of the best lead-producing mines in Wales, and very profitable.

HERODSFOOT.—This mine never looked better. The 190 fathom level is opening out a fine course of lead, approaching a point where the lode over was 15 feet wide. A cross-cut is being driven west from this level where indications present themselves of another lode being near; should such be cut a new mine will be found high and dry in whole ground to surface. The 205 fathom level north is a strong good lode. Greatly increased returns will be made ere long.

PEN-YR-ORSEDD.—Good progress is reported here and the middle lode now being cut through shows great strength.

LEAD SYNDICATE.—With a view to uphold prices at a more remunerate figure than is now obtainable, it is proposed, as will be seen by a communication in another column, to form a syndicate of the chief producers of Spanish and German lead. It is obvious that British producers must benefit from any movement which gives them a better price than they are now receiving.

BRAZILIAN GOLD MINES.—Since the issue of the allotment letters there have been many inquiries for the shares, which have changed hands at a ¼ to ⅜ premium.

GOLD COAST MINING COMPANY.—It is announced that the allotment letters were posted on Thursday evening.

ALLTAMI COLLIERY.—The directors have wisely created preference shares of 20s. each instead of 5*l.*, and there can be no doubt that these should be taken up readily.

WANTED,—A PRACTICAL SMELTER as RESIDENT MANAGER of the HEBBURN LEAD WORKS, near NEWCASTLE-ON-TYNE.
Applications, stating experience, salary required, age, and other particulars, to be made in writing not later than the 10th of April next, addressed to BEWICK and PARTNERS (Limited), Haydon Bridge, Northumberland.

WANTED, an AIR COMPRESSOR, with ENGINE, capable of blowing 40 lbs. with 80 lbs. of steam. Air cylinder 12 inches diameter.
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THE ADVERTISER has a very VALUABLE PIECE of VIRGIN TIN MINING GROUND in CORNWALL, from which LARGE QUANTITIES OF TIN can be raised AT ONCE from different lodes, which are OPEN TO INSPECTION.
For full particulars, apply to "A. B.," MINING JOURNAL Office, 26, Fleet-street, London.—March, 1880.

SILVER-LEAD MINE.
THE OWNERS of a very promising SILVER-LEAD MINE in DERBYSHIRE, having expended upwards of £1600 in developing the same, are prepared either to DISPOSE OF IT, or to meet with capitalists to JOIN IN WORKING IT.
Apply to M. J. DENNEY, Esq., Church Walk, Ulverston; or to view, Mr. RICHARD DUNN, Flagg, near Buxton.

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A GENTLEMAN, intimately acquainted with the COPPER AND YELLOW METAL TRADES, after twenty-six years' experience with Messrs. WILLIAMS, FOSTER, and Co., now SEEKS a RE-ENGAGEMENT in a POSITION of TRUST and CONFIDENCE.
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40 Antioquia.	50 Flagstaff.	100 Pestarena.
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50 Canada Copper, £2¾	19 Herodsfoot.	10 Richmond.
50 Don Pedro.	10 Marke Valley.	90 Tolima, B.
15 Devon Consols.	10 Nouveau Monde.	20 Tankerville.
40 East Caradon.	100 Parys Copper.	10 South Frances.

BWLCH UNITED.—This mine has greatly improved within the last few days, more especially in the 70 fm. level. The shares must have a great rise before long
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100 Bedford United.	60 Gawton.	115 Pestarena.
70 Blaen Caelan.	50 Glenroy.	30 Phœnix United.
25 Blue Hills.	25 Grogwinion.	65 Pen-yr-Orsedd.
120 Cedar Creek.	20 Herodsfoot.	40 Polrose.
100 Cwm Pryf.	20 Killifreth.	50 Port Nigel.
80 Cambrian.	100 London & California.	80 Prince of Wales.
40 Derwent.	50 Mynydd Gorddu.	55 South Tolcarne.
3 Dolcoath.	45 Morfa Du.	10 South Frances.
100 Exchequer.	10 Minera.	100 South Indian.
35 East Caradon.	75 New Kitty.	70 South-East Wynaad.
90 East Crebor.	85 New Wye Valley.	80 Wheal Coates.
50 English Australian.	10 North Herodsfoot.	40 Wheal Uny.

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BRAZILIAN GOLD MINES (LIMITED).
WALTER TREGELLAS strongly recommends the immediate purchase of these shares. The company holds a series of extraordinarily rich gold mines, which from surface scratchings have yielded gold of the value of upwards of £150,000. The company likewise holds a mountain of "Jacotinga." The shares are £1, fully paid
The Brazilian Gold Mines will be the great Gold Mining Prize of 1880.
Full particulars on application.

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SPECIAL NOTICE.—Investors are constantly misled by being recommended to buy shares which afterwards prove unsaleable. Messrs. STUART and Co., however, engage themselves to find a market should any client be desirous of re-selling within twelve months from the date of purchase.
We can with confidence recommend the following SHARES:—Parys, Glasgow Caradon, Prince of Wales, and South Prince of Wales.
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ARE BUYERS OF
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Assays or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and other Ores. ASSAYING TAUGHT.
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THE PATENT TUNNELING AND MINING MACHINE COMPANY (LIMITED) are now PREPARED to GRANT LICENCES for the USE of their PATENTED PROCESS for DRIVING TUNNELS and HEADINGS in HARD ROCK. By this process a progress of 8 ft. can be attained by hand only in from 30 to 40 hours according to the character of the rock.
The company are also prepared to GRANT the USE of their PATENT MACHINES when desired, by which drill-holes of the requisite length can be made with much greater expedition than by any other machine in use.
Apply to the Secretary, 16, Austinfriars, E.C.

ENDLESS CHAIN HAULAGE.
THE ADVERTISER being connected with EXTENSIVE COLLIERIES in LANCASHIRE, where the ENDLESS CHAIN HAULAGE is much used in preference to all others, is open to DESIGN, ARRANGE, and CONTRACT for the same to other firms, either for UNDERGROUND or SURFACE WORK. Also PUMPS, SCREENS, &c., required at MINES or COLLIERIES, will be supplied on reasonable terms.
Apply, in first instance, to "D.," care of Mr. Alfred Barnard, Advertising Agent, 49, Fleet-street, London, E.C.

CAPTAIN ABSALOM FRANCIS, M.E.,
GOGINAN, ABERYSTWITH.
CWM PRYF.—For present prospects, see report this week in *Mining Journal*. Shares will go to £5 before the end of 1880. A large tract of ground has been added to the present grant, making it one of the most extensive setts in the county of Cardigan. For the few remaining shares unissued out of the 20,000, applications may be made to the above before the 31st inst., from whom all particulars may be ascertained.

TO CAPITALISTS AND INVESTORS.—
LADY ASHBURTON SILVER MINING COMPANY (LIMITED), at par, £1 per share.
NAVA DE JADRAQUE GOLD AND SILVER MINING COMPANY (LIMITED), at par, £1 per share.
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Monthly Investment Circulars post free on application.

MR. CHAS. BAWDEN, MINING ENGINEER, ST. DAY, SCORRIER, CORNWALL,
Intimates to his numerous friends and clients that the present "temporary" depression should be taken advantage of, and shall be pleased to name Progressive and Dividend-paying Mines that must rise in value, founded on their merits, irrespective of market operations.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
March 20	—Foxdale	100	£13 12 6	Mining Co. of Ireland.
24	—Llanrwst	50	10 5 0	Adam Eyton.
	—Great Dyliffe	40	11 0 0	Sheldon, Bush, and Co.
25	—Tankerville	80	11 0 0	Walker, Parker, and Co.
	— ditto	15	9 0 0	Sheldon, Bush, and Co.
	—E. Roman Gravels.	25	11 0 0	Walker, Parker, and Co.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
March 16	—New Wye Valley	50	£3 1 0	Messrs. Vivian & Sons.
20	—Frongoch	100	3 16 0	ditto
22	—Aberllyn	50	3 3 0	ditto
24	—Minera	80	6 0 0	ditto
	ditto	50	6 0 0	ditto
	ditto	50	5 16 0	ditto
	ditto	50	5 16 0	Messrs. Dilwyn & Co.
	ditto	25	5 19 6	ditto
	ditto	12½	5 6 0	ditto
	ditto	12½	5 6 0	Messrs. Vivian & Sons.

FRONGOCH Company sold on the 20th inst. 100 tons of blende at 3*l.* 16s., and has sampled a further 130 tons for sale on the 30th inst.
GROGWINION has sampled 100 tons of lead for sale on the 27th inst.
WEST WYE VALLEY sells a parcel of lead to-day and a parcel of copper next week.

COPPER ORES.

Sampled March 10, and sold at Swansea, March 23.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Caveira	80	8½	£ 5 12 0	Cambrian	5	14¼	£9 1 0
ditto	80	8½	5 14 0	Centine	21	10¼	6 17 6
ditto	80	8½	5 9 0	ditto	19	7	4 12 6
ditto	80	8½	5 13 6	ditto	6	8½	5 4 6
ditto	79	8¼	5 9 0	Telhadella	4	27	19 2 6
ditto	79	8¼	5 13 6	ditto	29	13⅜	9 12 0
ditto	78	8¼	5 11 0	ditto	1	7¼	5 2 0
Betts Cove	120	6⅝	4 8 0	Furnace Slags	22	14¼	9 4 0
ditto	120	6½	4 7 6	Italian Ore	19	22⅞	15 13 6
ditto	93	6½	4 4 6	Copper Ore	6	13¾	9 6 6
ditto	93	6½	4 4 6	ditto	2	7⅛	3 15 6
Sobral	77	17	11 15 0	Copper Slime	4	26½	15 5 0
Cambrian	23	18	12 2 6	Copper Prec.	2	26⅜	16 5 0
ditto	22	22¼	14 13 0				

TOTAL PRODUCE.

Caveira	556	£3105	15 6	Furnace Slags	22	£ 202	8 0
Betts Cove	326	1838	17 0	Italian Ore	19	297	16 6
Sobral	77	904	15 0	Copper Ore	8	63	10 0
Cambrian	50	646	8 6	Copper Slime	4	61	0 0
Cetine	46	263	12 0	Copper Precip.	2	32	10 0
Telhadella	34	360	0 0				

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Copper Miners' Company	290	£ 1,305 14 0
P. Grenfell and Sons	237	1,311 9 0
Nevill, Druce, and Co.	36	371 5 0
Vivian and Sons	136	1,588 6 0
Williams, Foster, and Co.	387½	2,225 1 9
Mason and Elkington	86	491 19 0
Charles Lambert and Co.	2	7 11 0
Landore Copper Company	69½	475 6 9
Total	1244	£ 7,776 12 6

NO SALE on April 6.
The Cape Copper Mining Company will appear as bidders in the Ticketings after the usual lapse of one month.

TOTALS AND AVERAGES.

	21 cwts.	Produce.	Price.	Per unit.	Standard
Whole sale	1244	9¼	£6 5 0	13s. 4d.	£92 7 9

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt; it then forms an accumulating useful work of reference.

LUMINOUS PAINT.—In the Journal of Saturday there is an article on "Balmain's Luminous Paint." Would some correspondents be so kind as to give me the name and address of the firm from whom I can procure some.—H. J. M.

ORDINARY SHARES AND SHARE WARRANTS—"Enquirer" (Lymington).—The advantage of share warrants as compared with fully paid shares is nil to the owner who intends to hold for investment; but when the purchase is made with a view to resale the supposed advantage is that a legal transfer is effected by the mere delivery of the warrant. The share warrant is, however, no qualification for a director, and the rights of the warrant-holder may also be limited—that is, reduced below those of the ordinary shareholder, if the Articles so provide. The share warrants can at any time be converted into ordinary shares at the option of the holder, by surrendering the warrant for cancellation, and the holder's name will then be entered on the register of members from which it has been removed when the warrant was issued. As the stamp duty is an *ad valorem* duty equal to three times the amount which would be chargeable on a transfer deed for the same share the real advantage to the shareholder is very questionable.

IMPORTANT NOTICE—FOREIGN POSTAGE ON THE "MINING JOURNAL."—Under the Universal Postal Convention the postage of the *Mining Journal* to many countries has been greatly reduced as compared with former rates. Henceforth the subscription will be 1*l.* 10s. 4d. per annum (39 frs.), postage included for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxemburg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunis, and the Canary Islands. Spain 1*l.* 19s. (50 frs.) Subscribers remitting to the office can in most cases avail themselves of the International Postal Money Order system; those in the United States and Germany should advise their remittance by letter, as the Post Office does not give the sender's name.

Received,—"J. M. F." (Canadian Sulphur and Copper Company): We must wait for the coming meeting—"W. T. B." (Surinam Gold Company)—"M. T."—"T. J. P." (New York)—"Shareholder" (West Kitty)—"R. E. B."—"G. S."—(Dewsbury Sewage Works)—"S.G.B.": Next week—"Looker-On" (Old Mexican Bonds)—"N. R.": We think not—"Shareholder" (Bristol): The Chontales meeting on Wednesday was private. Our reporter was refused admission—"V. R. R.": Next week—"Shareholder" (West Chiverton)—"M. W." (Canterbury)—"R.W.C." (Edinburgh)—"H.W.": We shall be glad to have it—"J.G."

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, MARCH 27, 1880.

THE MINING AND IRON INDUSTRIES OF SHROPSHIRE.

There are few counties in the Kingdom where the minerals are of a more diversified nature than Shropshire, or where the geological features are more interesting. In it occur the Silurian rocks, which rise to the height of 1320 ft. above the sea, and about half that of the general level of the country around. It includes the Wenlock group, with great thicknesses of limestone and shale. The fine escarpment of Wenlock Edge stretching 20 miles, with a general strike to the south-west and north-east through Shropshire, is composed of limestone, some of the beds being replete with corals and other fossils. The last phase in the existence of the Silurians is the upper "Ludlow bone or fish bed," so called from the abundance of fish bones and teeth which entirely makes up the seam or stratum, varying from 3 to 9 in. in thickness; and so persistent is the deposit that in some places it appears to occupy the entire area of the Silurian series, being rich in organic remains of the greatest interest. It would seem to have been the period when fish were first created, for there are no remains of them found earlier than the Upper Ludlow bone bed. This bed also furnished the first evidence of land plants of which we have any knowledge—probably the spore cases of some of the larger lycopodiacea, or club mosses. By a knowledge of this interesting deposit, its contents and position, geologists are enabled to determine with much certainty the boundary line of the Upper Silurian and the Old Red Sandstone. Leaving the geographical features of the county, its mineral wealth may be noticed; these embrace copper, lead, zinc, ironstone, coal, and fireclay, all worked. There are but few lead mines in the county, but some of them are amongst the most profitable, as they include the Roman Gravels and Snailbeach, from which large quantities of ore with a good deal of silver has been raised. In 1866 the quantity raised from six mines was 4038 tons, whilst in 1878 from the same number the yield was 6158 tons, with 5556 ozs. of silver, of which Snailbeach was credited with 2498 tons of ore, Roman Gravels 2093 tons, and Tankerville 1080 tons. Zinc is also obtained from the Snailbeach, Roman Gravels, and West Tankerville Mines, but not in large quantities, the last yearly return giving the production of all of them at only 598 tons of ore. A small tonnage of copper ore got along with barytes has also been raised at Wotherton, as well as some fluor spar from other mines. In Shropshire a good deal of ironstone has been worked for a good many years past, there being several courses in connection with other measures, the Coalbrookdale and Lilleshall Companies being the largest producers. The quality is that known as argillaceous carbonate, and is used at the local furnaces.

The last return shows a marked falling off even compared with so far back as 1855, when 365,000 tons were raised. Shropshire, however, has long been noted for its pig-iron, as well as for its products of manufactured iron and steel, the Coalbrook Dale Company having a high reputation for every description of ornamental castings, whilst the Lilleshall Company are known in all directions for pumping, winding, hauling, and locomotive engines, air-compressors, and ventilators. Still the production of pig has not been of that progressive character of late years as has been the case in nearly every other of our great iron-making centres, but of course there are the large iron-making establishments of Staffordshire close at hand from which supplies can be readily obtained. The falling off in the make of pig during the seven or eight years preceding 1878 has been of a most marked character, and shows, as we said before, that their productive power, so far as the furnaces were concerned, has not declined, but that the make of iron has declined to a greater extent than in any other county connected with the iron trade. There has also been considerably less mill material turned out than formerly, for whilst in 1866 there were in the county 213 puddling-furnaces and 29 rolling-mills, in 1874 there were only 183 puddling-furnaces and 26 rolling-mills, and even that number in 1878 had fallen off to 139 puddling-furnaces and 18 rolling-mills. This shows that there has been a decline in every description of iron, both raw and manufactured.

The coal field of Shropshire is not extensive, but has some interesting and peculiar geological features. The Shrewsbury field is seldom more than a mile in breadth, the measures being overlaid by the Lower Permians, with fragments of white quartz and carboniferous limestone. The coal fields of the Forest of Wyre, the Clee Hills, and Shrewsbury, together with a fourth one extending to within a few miles of Shrewsbury, are of so valueless a character that they are not much worked. The Coalbrookdale field has several seams of coal, ranging from 18 in to 5 ft. 6 in. in thickness, contained in a series of strata about 1000 ft. in vertical thickness, and several of the seams of coal and ironstone have only a limited range, and appear to die out in certain directions. The Upper coal measures are found extending from the northern portion of the coal field along the eastern sides to the banks of the Severn. The strata is much broken by faults, the largest being in the western boundary. The coal under a very large portion of the field has been nearly exhausted, and many collieries that were working some years since have been abandoned, and the remains of them are still to be seen whilst travelling along the line of railway connecting Shrewsbury with Wolverhampton. The field of Coalbrookdale, indeed, is not likely to last many years more. The area of the field is estimated at 28 square miles, the greatest thickness of the coal measures being 1200 ft., with a thickness of about 27 ft. of coal, in seams ranging from 2 ft. to 6 ft. At the present rate of production the field will not last many years. The estimate only applies to the actual coal field, as the measures pass under Permian and New Red Sandstone along the eastern margin, where they have already been tapped. But the Coalbrookdale coal field itself is fast approaching extinction as a coal producing district; but there are large deposits in the adjoining field of Denbighshire that will be available for the supply of the ironworks, as well as for domestic purposes. For several years, indeed, there has been a decline in the production.

THE AIR CIRCULATING IN MINES.

The question of keeping up a constant supply of fresh air in mines is now receiving more attention than hitherto, for it is admitted that many mines are capable of being made as healthy as ordinary working places above ground, but in few cases is it really so. Besides the necessity of furnishing the men and the lights with pure air to replace that exhausted, it is imperative to keep up an active and continuous current from above. In mines free from dangerous gas 100 cubic feet of air per minute for each person may be taken as the minimum essential for such sanitary purposes alone. This quantity of air cannot be introduced with air-pipes, as many not practically acquainted with mines have proposed. The employment of small faces and narrow air tubes, of waterfalls and the like, are simply temporary contrivances, and are always abandoned as soon as the main current of air can be increased to the required amount. Consideration should, therefore, be given to the number of persons employed in the different workings, and a liberal calculation made of the quantity of air required to keep them in a truly healthy state. A healthy person inhales about 320 cubic inches of air per minute and 32 cubic inches of oxygen, and discharges something like 25 cubic inches of carbonic acid gas per minute, to compensate for which the air must be constantly changed, and this is most readily done by lessening the pressure in one of the shafts. If, for example, a furnace were placed in one pit (the upcast), or a fan applied at the top thereof, the air would become lighter bulk for bulk, or part of it would be removed, whilst the air in the other (the downcast) pit would, in rushing to supply the deficiency in the upcast, ventilate the workings. The weight of the atmospheric air is also an important consideration for the managers of mines in supplying it underground. It is 815 times lighter than water, and at the level of the sea, with the thermometer at 60° Fahr., and the barometer at 29 3-10 in., the weight of 100 cubic inches would be 31 grs., and rising above the level of the sea to the height of about 2¾ miles, the weight would be nearly half of that stated, whilst the barometer would fall 14¾ in.

It often happens in winter, too, when natural ventilation is the most active, that the current of air becomes too sharp and incommodes the workmen, but this is remedied by placing in the passage where the current is most strongly felt doors which do not quite close. In some mines, too, the return air has been known to ignite by being carried over a furnace, but this can be prevented by means of a dumb drift, which should be placed in the shaft some 20 yards from the furnace drift. REGNAULT determined that the specific heat of air was 0·2669°, so that the same amount of heat which would raise 1 lb. of water one degree in temperature would raise the same weight of air 3·75°, equivalent to raising 49 cubic feet of air by one degree. Under ordinary circumstances the atmospheric air which at first fills all excavations undergoes numerous modifications which unfit it for the part it has to play, so that it is necessary to constantly replace it by a continuous current drawn from above.

In the measuring of the air passing through a mine there are several modes. One of the simplest is to start from a fixed point and walk in the direction of the current of air at such a speed as just to keep upright the flame of a candle carried in the hand. The length travelled in one minute multiplied by the area of the airway is the quantity of air passing per minute. Officers in charge of the ventilation should daily measure with a sand glass, and mark on the wall the distance they can thus walk in a minute in every split of air in the mine, and no better instructor in ventilation need be desired. Powder smoke is also sometimes used for the purpose, being flashed off on the ground, two persons marking the instants at which the smoke passes them. BIRAM'S anemometer is adopted at many places; each revolution of the vanes corresponding to 1 ft. in the linear motion of the air, and is registered on the dial-plate. The velocity per minute multiplied by the area of the place in square feet gives the number of cubic feet of air travelling per minute.

COAL IN FRANCE.

The production of coal in France grows slightly, but the progress made is so slow that it may almost be said to be imperceptible. The extraction effected in 1879 was 17,104,485 tons, as compared with 16,960,916 tons in 1878. The advance established in the production last year was thus only 143,569 tons. At this rate of progress even in 1890 France will only be raising from her soil somewhere about 18,500,000 tons of coal annually; and it is tolerably clear that the French are not, as a people, fond of coal mining, and that so long as they can obtain supplies tolerably freely from their neighbours they will not apply themselves with any real vigour to the utilisation of the very considerable coal wealth with which Nature has endowed the French soil. Still, it is always right to be accurate, and we ought in fairness to acknowledge that French coal mining industry has made some progress during the last 50 years. The working of coal mines in the Pas-de-Calais was unknown at the commencement of the century; and as the French have gradually become a more peaceable people since 1830 so they have become more industrious, and coal mining has felt, to some little extent, the consequences of the change. But, notwithstanding all this, the hard tangible fact remains that French coal mining has not kept pace with the general progress of French industry and with the rapid growth of the French demand for coal, which has been its attendant and concomitant result.

One great and marked feature in the social life of modern civilized countries is the extraordinary development of steam-power. We witness this development to a less extent in France than in Great Britain or the United States, but still we witness it. Steam-power has helped the French over enormous material difficulties, just as it has produced an immense accumulation of wealth in Great Britain and the United States. The war with Germany into which France unfortunately drifted in July, 1870, not only wounded intensely the *amour propre* of the French people but it also entailed upon them pecuniary burdens of the most severe description. So crushing, indeed, was the war indemnity imposed upon vanquished France by victorious Germany that many unreflecting observers expressed doubts whether the resources of the Republic would be able to sustain the severe strain to which they were subjected. But France proved equal to the occasion, and paid Prince BISMARCK his 200,000,000*l.* with an ease which very possibly occasioned surprise and chagrin to the "man of iron." The industry of its people, the fertility of its soil, and the aid of a very considerable amount of steam-power have endowed France with a very large surplus income over and above the daily requirements of its thrifty children, and it now raises a larger revenue for public purposes than that collected by any other country. Still, the French are content to draw a very large proportion of the fuel consumed by their steam-engines from neighbouring countries. They have to pay pretty smartly for the coal thus placed at their disposal, but they are apparently content to do so.

Until some great change takes place in the feelings and temper of the French people in this regard we cannot expect to witness much progress in French coal mining. There is plenty of coal in the French soil, but the French capitalist appears to prefer to dabble in Egyptian and Spanish stocks rather than to embark in coal mining operations, and the French workman seems disposed to apply himself to almost any other industry rather than to descend below the surface of the ground for the prosecution of his daily toil.

LOCOMOTIVES IN AMERICA.—The Pittsburg Locomotive Works have under way a contract for five large locomotives, the weight of each of which will be 50 tons. They are for use on the George's Creek and Cumberland Coal Railroad, the grade of which is 180 feet to the mile. The capacity of these works is two finished locomotives per week, and they have at the present orders the execution of which will occupy several months.

DEEP BORING—THE CONTINENTAL DIAMOND ROCK-BORING COMPANY.—Some interesting particulars have been forwarded to us with regard to the boring for salt at Probst Jesar, near Lübtheen, which has just been executed by this company for the Government of Mecklenberg-Schwerin, and which was carried to the great depth of over 1200 metres (nearly 4000 ft.), being, it is believed, the deepest bore-hole but one in the world, that one being a bore-hole put down for the Prussian Government some few years back, which was carried to a depth of 1275 metres; but that boring took over four years to complete, whereas the present one was accomplished in less than six months from start to finish, including stoppages.

TUNNELS.—It may be interesting to know that the Woodhead Tunnel is somewhere about 3 miles long, the Mount Cenis Tunnel about 9 miles, the St. Gothard about 11 miles, and the Simplon about 13 miles long.

STEEL MILLS.—It is estimated that the total capacity of the steel mills throughout the world is about 3,000,000 tons for the year's production. The figures may be divided as 800,000 tons for the United Kingdom, 750,000 tons for America, and the rest for Germany, France, Belgium, Austria, Sweden, and Russia.

REPORT FROM CORNWALL.

March 25.—Now that holidays have intervened as well as elections, it will be quite understood that there is very little to report in connection with mining, as, indeed, with any other matter of commercial enterprise. There has been some anticipation—in consequence of the current dulness—of a fall in the standards for tin, but the smelters have no made no move in that direction, nor is it easy to see why they should have done so. It is very easy to account for the recent reduction in business on very different grounds from those of a fall in the value of metals. Probably now we have tided over the danger of a reduction.

The only events of the week calling for comment are connected with mine meetings—first in the rank of which we must place East Pool, with the profit of 7333*l.*, and its dividend of 1*l.* 2s. 6d., or against 17s. 6d. at the last account in January. This is a remarkable result, and by no means a special and individual illustration of what the changed times have done for mining generally. South Frances, too, well to the fore with its profit of 3000*l.*, and a dividend of 16s. After all, then, such as these are the most encouraging facts that can be reported in connection with mining enterprise; and if we can get enough of them there is no need to complain of dulness in other directions.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

March 25.—The coal market is strengthened this week by the wages agitation amongst the colliers, which is now again to the fore. At a representative meeting of the men shortly to be held at Tipton it is to be determined whether three months' notice shall be given for the termination of the sliding scale. Forge coal is selling at from 8s. 6d. to 9s. per ton into boats at the pits, and the boats, it should be noted, carry from 24 to 26 tons, though they are gauged at only 20 to 21 tons. Fuel mined upon Cannock Chase is entering into severe competition with the product for forge purposes of the collieries in the other part of the district. Stocks of common pig-iron are increasing, but makers will not much give way in quotations. Wigan pigs are upon offer at 3*l.* 10s. Stocks of all-mine pig-iron are delining, and 4*l.* 10s. per ton is about the minimum price, while some makers demand 4*l.* 12s. 6d. and 4*l.* 15s. The mills and forges have been busy this week, in anticipation of the holidays. United States orders for hoops are still being received direct. Good boiler-plates are firm, at 10*l.* 10s., and they range up to 11*l.* 10s.; but inferior makes may here and there be secured at 10*l.*

The Mill and Forge Wages Board annual meeting was held in Birmingham, on Monday, presided over by Mr. J. P. Hunt, the Chairman of the Ironmasters's Association. The fourth annual report testified to the loyalty with which the arbitration awards had been carried out on either side, and stated that in future the board would be self-acting by the aid of a sliding scale. The report was adopted, and the meeting considered the question of the sliding scale. On the masters' side it was proposed that the sales of iron should be taken out as before, by an accountant, and that 1s. per 1*l.* should be paid for puddling upon the average selling price, after making the usual deductions and the usual discount. The operatives' proposal was similar, but the practical difference was that 1s. per 1*l.* was proposed by the masters, and 1s. per ton added was the proposition of the men. Consequent upon the President of the board, Mr. Chamberlain, M.P., being unable to arbitrate just yet, the employers proposed that the existing rate of wages should continue for three months, and that the calculation for the sliding scale should be made with reference to March, April, and May. The men's representatives asked for an immediate rise of 1s. per ton, and the postponement of the sliding scale until July. The masters protested their inability to give an advance, and they were then informed that a 6d. advance would, perhaps, satisfy the men. Any rise at all was, however, refused, and it was determined that Mr. Chamberlain should be asked to make an award as soon as possible.

The general meeting of Muntz's Metal Company (Limited) was held on Tuesday, at Birmingham, Mr. Jaffrey (chairman) presiding. The directors' report showed a profit on the past year's transactions of 22,170*l.*, which, with the amount brought forward from the previous year, made a disposable balance of 33,919*l.* An interim dividend at the rate of 7½ per cent. per annum had been declared for the first half of the year, and the directors recommended that the amount should be made up for the whole year to 10 per cent., carrying 2000*l.* to the reserve for bad debts, 1000*l.* for depreciation of machinery and tools, 825*l.* for depreciation of land buildings, and 12,216*l.* to the current trading account. The report was adopted.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

March 25.—Leaving the village inn at Rhyd-y-mwyn, we walk along the road towards Nannerch until we reach the limestone quarries—nearly a mile distant. To our left along this line of road is a rich old lead mining district. The Llyn-y-pandy Mines, as worked by John Wilkinson at the commencement of the present century, yielded a large quantity of lead ore. Two kinds of ore were obtained—blue galena and white carbonate of lead. The great difficulty, and one which mastered all their efforts at last, was water. The lower workings, which were not deep, were left rich, and it is to be hoped that as the Halkyn Deep Level comes under this ground, as it is proposed to do, it will reveal the ore that could not in the old days be gotten for water, notwithstanding that "four vast engines of Boulton and Watt's construction" were employed in pumping. Some of the mines of this particular district are now being opened with promises of success. We turn off the main road at the limestone quarries in the midst of old mine shafts and surface works, and toil up the ascent towards Hendre. Taking a little turn to the left we reach North Hendre Lead Mine, and soon find ourselves in pleasant talk with Mr. Goodman Ellis, the present manager, as before now we have found ourselves in pleasant companionship with Mr. John Lean, the former manager. Workings have been carried on here for many years, and for a long time without success. A long level runs along the course of the great north and south lode—the "Hell Gallop" vein—that runs its course of 14 miles or so from south of Llanarmon to Holywell. At last, in one of the openings eastward out of this lode, ore was found, and followed ultimately into the great flat lode, where it is now worked with so much success. There it comes up out of the shaft 100 yards deep, in lumps of all sizes, from that of a nut to that of great boulders. Its appearance is that of rusty boulders, but strike off the outside crust, and there shines the almost pure galena. There is not much scope for dressing machinery here, or, indeed, all the way from here to Holywell. Reserving a more particular description of the "flat" and the conditions under which the ore is found to another occasion, we journey onwards until we reach the open land

or common of Halkyn Mountain. To our right as we travel is the Rhosesmor Mine, now unwatered by the Deep Level, and about to be worked with every prospect of success. We partake of the simple but hearty hospitality of a miner on the edge of the common, and then arrive first at the Old Grosvenor Mine. There are many Grosvenors among the mines here, so named out of compliment to the family which, since the days of Charles I., has held the mineral rights of the district.

In our walk from North Hendre we have followed the line of the great north and south lode, and we here drop down into it, and note its filling of clay, chert, and carbonate of lime, with but little lead. But several east and west lodes run eastward out of it, and here the ore is more apparent, especially where they converge.

The Deep Level Mines, which the deep level, begun by a former Earl Grosvenor, was intended to drain, lie with many more to our right. Indeed, it is observable how much more abundant the mines are to the east than they are to the west of the great north and south lode. One thing I noticed in my conversation with the miners, which was that almost every mine was on the same "flat" as the prosperous North Hendre, which of course is not true except in so far as they are all more or less connected with the north and south lode.

Northward there is the Wagstaff, then the South Prince Patrick, where operations are not now very brisk. Then comes a little mine exulting in the name of the Queen of the Mountains, where vigorous operations, well directed, seem to be going on. We are here in the region of swallows—great cavities in the limestone—empty when called by this name, but often filled with clay and carbonate of lime, and containing pockets of carbonate of lead. They are sometimes of great length, and, as in the case of the Prince Patrick, the next mine we reach, they hold great runs of galena, in lumps like those of North Hendre.

From this point to Holywell there are shoals of abandoned mines, some of which have made very large returns within the last 50 years, and most of which, if a level were driven up from the sea between Bagillt and Holywell, would yet yield large quantities of ore from the deeper part of the ore-bearing beds. Signs of revival are apparent and fresh heaps of debris mark new efforts to win ore. That the limestone is largely charged with ore is seen in the glistening lumps among the stones lately laid upon the road, and which miner lads with hammers and wallets are busy collecting. To our left, as we turn down to the station, lies the Great Holway Mine, and a little lower down we pass the entrance to the deep level that drains the workings to its depth. Below the level of the outflow of the historical well we have passed on our right, and below the level of this adit, the ore has yet to be followed and won down the dip of its productive beds. The mining operations along this limestone range are of the simplest kind, and contrast for the most part very much with those of Montgomery and Cardigan in the older rocks. The shafts especially are famous for being of the diameter of chimneys, and as tortuous in their downward course as if they were internal corkscrews. Many signs of improvement are, however, visible—good pithead engines and steel-rope guides down shafts, which, though larger than the old, are still of very limited capacity. But of unfenced shafts, if the reader should be benighted on Halkyn Mountain, let him beware.

TRADE OF THE TYNE AND WEAR.

March 24.—The shipments of steam coal have been good during the week, and this is likely to continue, especially to Bombay and Calcutta. There is great competition, however, at present in the coal trade from Yorkshire, Wales, and Scotland. House coal continues flat, but there is a demand for small and manufacturing coals generally. More good contracts have also been made lately for gas coal and coke. The coke trade, on the whole, is well maintained, but there is more coke in the market on offer than there was a few weeks ago, and makers show a great readiness to sell. Prices are little changed for coal of any description, but it is expected that in April an advance will be made in the rates now current, although to all present appearances the rise will not be so considerable as was anticipated. The London trade continues in a very depressed state, so far as the colliery owners are concerned in this district, only 14s. 6d. per ton is realised this week for Hetton first-class coal; for this valuable coal no doubt consumers will pay 24s. per ton, a price quite sufficient to remunerate coal masters and all others concerned if fairly apportioned, but this is far from being the case. There is no doubt that this coal could be delivered at wharves on the Thames at (say) 17s. per ton, and this would leave some profit to the colliery owner and shipowners, and certainly the coal could be delivered to consumers at or below the rates now charged. An arrangement of this kind would place the Northern coal owners in a position similar to that occupied by the Midland masters, who deliver the coals at stations to be sold by their agents, and it really appears to be inexplicable that such an experiment has not been tried. Some disputes at the collieries of the Consett Iron Company have caused the stoppage of the Iveston Colliery, and also the Redwell Hills Colliery, but the stoppage, it is expected, will be only temporary. The general trade of this district in coals, chemicals, metals, &c., is not opening out so well as was expected with the Baltic and the East generally, as we have noticed lately, and this is partly owing to the fact that there was too much speculation in the first two months of this year, and it is also partly owing to the disturbed state of Russia and the East generally. A favourable change has taken place in the chemical trade, and more orders are coming in; it is believed that the depression which has prevailed in this trade over the early weeks in March has been of a temporary character, and that a better trade will be done next month The foundry trade on these rivers continues good, and some of the large foundries are exceedingly busy; this is the case at the large works of Hawks and Co., Gateshead, and also at Abbot's, and other works. Most of the engineers on both rivers are also well employed, particularly marine engine builders, who are generally very full of work. The returns of the North-Eastern Railway Company show a continued increase, which proves that the output of coal, iron ore, &c., has been largely increased during the present year.

The Iron Trade continues very quiet, and but few transactions have taken place. Stocks are, however, decreasing. The downward movement at Glasgow is considered by many to be due to the operation of speculators, and a rise is predicted. Shipments have been steady, and larger than in the previous week. Shipments still continue to America, but scarcely on so large a scale as of late. The steelworks are very active, and the reduction in the price of hematite pig-iron has placed them in a better position. The report of the Darlington Iron Company promises good results for the present year. This company will soon be in a position to make Bessemer steel rails. The prices of finished iron are rather lower. Plates, 8*l*. 15s. to 9*l*.; bars, 7*l*. 15s. to 8*l*.; the figure for puddled bars about 5*l*. 15s. The shipyards are well employed, and most of them have arranged the wages question with the operatives. The coal trade has been extremely dull in households. Manufacturing coals are steady at late rates. Coke has been bought at lower rates.

At Middlesborough on Tuesday there was a good attendance, but the tone of the market was very flat. Buyers are hanging off, anxious to see which way the tide turns, and there is not much disposition to sell amongst large holders. Stocks of iron in Connall's store are reduced to 100,000 tons. Quotations for No. 3 are 53s. The news from America is less favourable for British iron. Hematite iron is much easier in price, which will favour steelmakers. More furnaces are being brought into operation in this district. This week one is to be lighted at Stockton. The merchants are offering iron at lower prices than makers are doing. Ship-plates are 8*l*. 15s. to 9d. The foundry trade is improved. Coal and coke has been quiet.

The fierce Parliamentary contest now going on in most of the boroughs and counties in this district attracts much attention, and to a certain extent interferes with business. It was expected that the members for North Durham, both prominent and eminent men in the coal and iron trades, would not be disturbed, but the extreme Radical section of the electors, headed by Mr. S. Story, of Sunderland, determined to have a contest, and they have succeeded in getting another prominent and much respected member of the coal trade, Mr. Joicey, to come forward. Whatever may be the result, it is not likely that Sir George Elliot will be defeated. It would be a great misfortune if this should happen, as it is impossible to overate the services he is capable of rendering to the mining, manufacturing, and commercial interests of the district. He was born in North Durham, and has raised himself to a position of eminence and usefulness. He is not only a great employer of labour, but a kind and good master.

REPORT FROM LINCOLNSHIRE.

March 23.—Since the year set in there has been a marked improvement in the state of the Lincolnshire Iron Trade, there having been an improvement not only in the business done in pig, but in ironstone as well, large quantities of the latter having been forwarded by railway to other iron-making districts. The local consumption at Frodingham has been supplemented by ore from the mines near to Lincoln, by which the excess of lime in the stone at the former place is controlled, seeing that too much lime is the fault peculiar to the ore so extensively worked at Frodingham and Scunthorpe. There are now 21 furnaces in the district, but not all in blast. However, the Frodingham Company, whose four fine furnaces are situate close to the station, have been doing well, whilst the prospects of the Lincolnshire Smelting Company, which was started in 1871, have been more promising. The company it may be said lost a good deal of money after starting, but the royalties having since been reduced the company should now be an undoubted success. The largest works in the district are those belonging to the representatives of the late Mr. W. H. Dawes, there being seven furnaces, but they have not all been in blast as yet. The Appleby Iron Company, of which Mr. W. J. Roseby has been the managing director, has been doing well. Large quantities of stone has been leased and worked by the Parkgate Iron Company, near Rotherham, Messrs. Cooke and Co., of the Tinsley Works, near Sheffield, and the Staveley Iron and Coal Company, who have the ore taken to their works by rail, consequently a considerable tonnage of the stone for some time past has been forwarded to the works at Sheffield, as well as those in South Yorkshire. In some instances the ore is worked with that from other places, but the mixture of the Frodingham and Lincoln stone produced a good quality of iron. It has been extensively used at the larger works of Mr. G. Dawes at Milton and Elsecar in connection with the greystone found on the estate of Earl Fitzwilliam. The iron has been sent to most consuming districts, as there is direct railway communication by the Manchester and Sheffield *via* Doncaster to all parts of the kingdom, as well as to the shipping ports of Hull and Grimsby. A good deal of both coal and coke it may be said is imported from the South Yorkshire district, which may be said to almost join in the ironstone field of Lincolnshire, great attention of late having been paid to the manufacture of coke in the district named, some of it being equal to the best Durham, so that the consumption is now only about 30 cwts. for every ton of iron made; this is considered very low, seeing that the stone is not calcined, but everything put into the furnace in its raw state. At some distance from Frodingham stone has been raised in the neighbourhood of Saxby and sent to the furnaces at West Ardsley, near Leeds. It was somewhat different from the Frodingham stone, there not being any excess of lime. The present production of the county will be at about 60,000 tons of stone per month, but the field is almost inexhaustible, so that in time it promises to rival Cleveland, and Frodingham in particular appears likely to take a high position in one of the leading centres of the iron trade in the kingdom.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

March 23.—There is little to report as to the trade of Derbyshire that is new, for mining operations in particular have not much changed of late. In the lead districts the miners are working much as usual, but there is every appearance that the productive power of the present year will be in excess of that of several former ones, and that some of the mines will be more extensively developed. At the ironworks business has been well maintained, and the output of pig has been kept up to the average. Still, there has not been that persistent demand for it which was the case in the earlier part of the year, for there are strong indications that even the present prices are not likely to be continued much longer. In merchant iron the demand has been of a steady character, and the mills have been running fairly. Foundry material at some places has been in better request of late, and some heavy foreign orders have recently been placed that will take some time in clearing off. At Dronfield the make of steel rails has in no way declined, although prices are far from being so firm as they were, and this, of course, is only what might be expected, seeing that recently there has been a marked drop in the rates charged for hematite in the raw, as well as in the furnace state, in the districts where the ore is raised and smelted. At the collieries trade is by no means so good as it has been, the requirements of house coal having fallen off considerably, whilst prices are lower than they were. The London market appears to have got quite glutted, so that merchants have been obliged to sell at rates lower than for a very long time past, and no improvement can now be looked forward to for some months. Steam coal is looking up, and the demand will no doubt now go on improving, seeing that in summer, as a rule, the consumption is the heaviest In other qualities of coal there has been no change to note, transactions being but moderate.

In Sheffield just now there is a good deal of excitement, owing to the election, for the workmen in this town are strong politicians, and partial to giving vent to their political views, and supporting the candidate who they consider represents them. This so far, however, has not led to any material loss of time on their part, so that there has not been much interruption to the ordinary course of trade, which is still good in almost every branch; but, perhaps, in some instances not so thoroughly active. In the heavy branches, such as armour-plates and general mill-work, there has been a steady output, and of late composite plates have been in fair request, and are likely to be still more so, seeing that our own Government will in all probability use them extensively for the vessels that will be laid down in the future. Steel is now being more used than it was for vessels being built for the mercantile marine—so that makers of that material have been much busier during the present year than at almost any former period, both as regards Bessemer and crucible. In rails the production is well kept up at the Bessemer establishments, whilst there is also a good deal doing in tyres, axles, springs, and wheels. In general cutlery the men are now now fairly employed, more particularly in the better qualities of knives. Business with America is scarcely quite so brisk as it has been; but still it may be considered as good, after the heavy shipments that have been made there for such a long period. The colonies have also been good customers for hardwares and other products of the town, whilst makers of sheep-shears have become rather busier. At the foundries more is being done in builders' and ornamental castings, whilst engineers and mechanics are better off. In the Elsecar district the mills are running well, whilst the production of pig has in no way declined at the large works of Mr. G. Dawes, both at Milton and Elsecar. In the neighbourhood of Barnsley the foundries are still comparatively quiet, as they have been for a considerable time past. The collieries in the same locality are not so busy, and many of them are now not doing much more than four days a week. The falling off has been principally in connection with house coal, less of late having been done in it for the London as well as other markets.

The sliding scale which was to fix the rate of wages to be paid to the colliers in South Yorkshire and some parts of Derbyshire, and which was to prevent disputes in the future, has for the present fal'en through owing to a disagreement of the rate which was to form the basis of the scale. The point in dispute was only about 1d. per ton, but as neither party would give way the movement has for the present failed. In the interest of both parties, however, it is to be hoped that another effort will be made to come to an arrangement.

Colliery property is evidently at a great discount at the present time, for we find that a most extensive one in the market could not find anyone willing to make an offer for it. This was the case on Monday last when the South Kirkby Colliery, belonging to the trustees of the Rosedale and Ferryhill Iron Company, was offered for sale by auction at Barnsley. There are two shafts, one sunk to the Five Yard, the Barnsley bed of coal, which is 9 ft. thick, being a total depth of 639 yards, and the other shaft is sunk to a depth of 130 yards. There has been expended on the colliery the capital sum of 76,778*l*. 14s. 2d., whilst the leasehold minerals comprise the large area of 1700 acres, with very little water. There is good railway accommodation, being connected with the Manchester and Sheffield, Lancashire and Yorkshire, Great Northern, Midland, and North-Eastern systems. With all these advantages in connection with such a vast field of thick coal the auctioneer was unable to obtain a single bid, and so the property had to be withdrawn. A few years ago there would have been a score of bidders for such a colliery, which would have realised a vast sum above the outlay; comment is unnecessary.

It is announced in the annual report of Messrs. Charles Cammell and Co., Sheffield, that the Government have approved and adopted their compound steel-faced armour plates, which, it is expected, will be largely used in war ships

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

March 24.—To some extent the amount of iron produced this week will be curtailed by the advent of Good Friday, and the early part of next week will be partially a holiday. Nothing is heard on all hands but the coming election, and the merchant leaves his counting-house, the labourer his employment, to advance the cause of his particular candidate. So far the coming political struggle has had no effect on prices, at any rate so far as they are quoted at the works, with the exception of pig-iron. Quotations for this article have fluctuated much, and are now rather easier. The rail trade has been very active, and quotations have been fully up to the average. Besides orders for the United States which are in hand there are requirements being worked out for India, Australia, and Brazil. The Alexandra Dock, at Newport, is so busily employed that vessels have had to leave for want of berthing accommodation. The bar department has been brisk, as times go, especially on foreign account. Scrap-iron, crossends, &c., find a ready sale at remunerative prices. Clearances during the past week have been mainly to the United States. The works are, as a rule, well employed. No fresh extension of make have been reported during the last few days. Iron ore arrives in increasing quantities from Spain. The Tin-Plate Trade continues unaltered. Prices are, however, a trifle easier.

Generally speaking the sliding scale agreement works well in the coal trade. The house coal men, or a section of them rather, do not seem to fall in quite with the arrangement, if one is to judge by a meeting held at Maesycwmmer. The meeting resolved to ask for a modification and reconsideration of certain clauses proposed by the sliding scale arrangement; and that those present were not satisfied that the present scale had legally come into operation. The Coal Trade has been active during the past few days, and as several large contracts have taken place at present rates it is believed that no immediate change in quotations will take place. The enquiry for steam qualities is tolerably good, but the quantity shipped on foreign account has not been quite so large. House qualities are moderately active. Patent fuel is in better request, and could prices but slightly improve it would be a source of satisfaction. The coke department is unchanged. Freights have not been quite so good, with the exception of the French ports.

VICTORIA UNIVERSITY—OWENS COLLEGE, MANCHESTER.—The charter of the Victoria University may now be regarded as virtually obtained, as it has been laid before and approved by the Queen in Council, so that it may reasonably be hoped that the University will be duly constituted in time for the formal inauguration to take place at the recognised season of Encœniæ—a date which would be especially appropriate, considering that the great object of the movement to which it owes its existence is to secure an unsectarian university corresponding with the honoured seats of learning at Oxford and Cambridge in being of an essentially academic character. The utmost credit is due to those connected with the Owens College, Manchester, not only for their indefatigable exertions to overcome the many objections raised, but also for their readiness to modify the original scheme rather than permit weaker rivals to feel there was any desire on the part of the Owens College to place them at a disadvantage. The Owens College will form the nucleus around which a great university will hereafter grow, and if the Leeds College of Science—a healthy and rapidly rising institution—and others give their hearty co-operation all will be benefited. It may be mentioned in this connection that the Owens College Magazine for the present month has an excellent article by Mr. Bailey on a Proposed University at Manchester in 1640, which is highly interesting, and is certainly some evidence that Manchester is not an inappropriate location for the new institution.

MINERALS OF THE UNITED STATES.—Mr. Davis, of West Virginia, Chairman of the Congressional Committee on Appropriations, presented to the United States Senate on March 5 a letter from Clarence King, director of the geological survey, to be printed in connection with the joint resolution authorising the extension of the survey. The communication is a reply to several enquiries made by Senator Davis. Mr. King says:—"Practically the States are not keeping up their surveys. A few States have lately made re-surveys, but to-day there are not eight active State surveys, and not one in the territories. After 17 years of continuous service on State and Government surveys, I am firmly of the belief that the mineral wealth of the country will never be reasonably well-known till studied by a national survey. With the understanding that the passage of the resolution under consideration will leave the geological survey free to work, not only (as at present) over the public lands, but over the whole United States, and to study its whole economical geology, I answer confidently that I shall be able to make an incomparably better series of reports on the mineral resources and products of the whole country than is possible under existing law. To-day the Government and the people do not know within a hundred million dollars the annual value of our mineral product. It would, in my opinion, be the duty of the geological survey to present a yearly volume giving a statistical analysis of all mineral products. Unless the advance of our industries shall be checked by some unexpected course, we are likely, within a few years, to reach an aggregate mineral yield of $1,000,000,000 yearly, and the passage of the joint resolution will enable the survey to familiarise the country with all the features and bearings of this great source of wealth and power, to keep pace with and report the facts of its rapid progress by the prompt publication of correct information, to actually and directly aid in its development, and promote the wise and guarded influx of foreign capital. Briefly and finally, in my belief, the question of the passage or defeat of the resolution under consideration is the question whether it is or is not desirable and needful for the people of the United States to thoroughly know the nature, extent, and uses of their mineral possessions."

ELECTRIC LIGHTING APPARATUS.—An improvement in electric lighting has been introduced by Dr. LUIGI CONCORNOTTI, of Crémone. He provides two metallic rods which are connected with the two wires of the circuit, within which the apparatus or lamp is situated. In one form of the said improved apparatus these rods are placed in such a position that they rise vertically from a socket or base, and in another form they are led from a ring downward; but in both forms of the said apparatus the rods are parallel to and insulated from each other, and the free ends of each one is fork-shaped, rollers being pivoted within the forks. These rollers may be of platina, steel, or copper, and are so arranged as to be exchanged when required. Instead of the said metallic rollers he can use carbon rollers, which must, however, be of much greater diameter than the metallic rollers. A bar or rod of carbon rests upon a portion of the periphery of the two rollers, and descends as it is consumed. This bar or rod is preferably made concavo-concave or double concave in transverse section, experience having demonstrated that this form ensures the best results. The contact between this carbon bar and the two rollers is at first only along two very narrow zones corresponding to the geometrical generating lines. During the passage of the current this contact is, so to speak, no longer absolute by reason of the repulsions of the contiguous elements of one single current. The result is that

two very small voltaic arcs are formed, whilst the portion of the carbon interposed between these arcs becomes incandescent. The other extremity of the said carbon bar is furnished with insulating material of any suitable kind, and is held by a holder formed with nippers attached to a prismatic socket or bush, which embraces a guide of the same form in transverse section, and slides with little friction along the said guide. In one form of the said improved apparatus, the prismatic guide is fixed vertically upon the base to which the electrodes are attached. In another form of the apparatus the said guide is fixed to the cover. The carbon bar as it is consumed is compelled to descend by its gravity, and is guided in this downward movement by the socket or bush around the guide.

PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine share-dealer, Truro (March 25), writes:—Our market has been quiet during the week, and prices have suffered a severe fall. Another reduction of the tin standards is expected. Carn Brea shares fell 5*l*., Cook's Kitchen 20s., Dolcoath 5*l*., East Pool 3*l*., South Frances 30s., Tincroft 2*l*., West Basset 30s., West Frances 20s., and Wheal Peevor 4*l*. The following are to-day's quotations:—Blue Hills, 3¾ to 4; Carn Brea, 79 to 81; Cook's Kitchen, 6 to 6½; Dolcoath, 53½ to 54½; East Pool, 29 to 30, ex div. of 1*l*. 2s. 6d.; Mellanear, 5½ to 6; New Cook's Kitchen, 6 to 7; Penhalls, 2½ to 3; South Condurrow, 11 to 11½; South Crofty, 10 to 11; South Frances, 14¾ to 15¼; Tincroft, 16½ to 17; West Basset, 17 to 17½; West Frances, 14½ to 15; West Seton, 22½ to 27½; West Tolgus, 50 to 52½; West Peevor, 6½ to 7; Wheal Agar, 6 to 6½; Wheal Basset, 3¾ to 4; Wheal Grenville, 8 to 8½; Wheal Jane, 4½ to 5; Wheal Kitty, 5½ to 6; Wheal Peevor, 23 to 25; Wheal Prussia, 1¼ to 1½; Wheal Uny, 3½ to 4; Wheal Sisters, 3½ to 4.

— Mr. J. H. REYNOLDS, stock and share broker, Redruth (March 25), writes:—The Cornish mine share market during the early part of the week was dull and depressed, but yesterday and to-day prices have somewhat recovered, and close as follows:—Blue Hills, 4 to 4¼; Carn Brea, 79 to 80; Cook's Kitchen, 6½ to 7; Dolcoath, 53 to 54; East Caradon, 3¼ to 3¾; East Lovell, 2 to 2½; East Pool, 29½ to 30½; Herodsfoot, 3¼ to 3¾; Killifreth, 1 to 1½; Marke Valley, 2 to 2¼; Mellanear, 5½ to 6; New Cook's Kitchen, 6 to 6½; North Busy, 7 to 7½; North Herodsfoot, ⅜ to ¾; North Penstruthal, 2 to 2¼; Pedn-an-drea, ⅞ to 1; Phœnix, 5¼ to 5¾; South Caradon, 130 to 135; South Condurrow, 10½ to 11; South Crofty, 10 to 11; South Frances, 15 to 16; Tincroft, 17 to 18; West Basset, 16 to 17; West Poldice, 2¼ to 2½; West Frances, 15 to 16; West Peevor, 7½ to 8; West Seton, 27½ to 28½; West Tolgus, 52 to 55; Wheal Agar, 5½ to 6; Wheal Basset, 4¼ to 4½; Wheal Crebor, 9½ to 10; Wheal Comford, 4½ to 5; Wheal Grenville, 8½ to 9; Wheal Jane, 4¼ to 4½; Wheal Kitty (St. Agnes), 5½ to 6; Wheal Peevor, 24½ to 25½; Wheal Uny, 3¾ to 4; Wheal Jewell, 1 to 1¼; Wheal Prussia, 1½ to 1¾.

— Mr. M. W. BAWDEN, Liskeard (March 25), writes:—The mining market has been exceedingly dull, and prices have again receded. Buyers are scarce, and will probably remain so until after the Easter recess and the reassemblage of Parliament. Subjoined are the closing prices:—Bedford United, ⅞ to 1; Carn Brea, 75 to 76; Clitters, 4½ to 4¾; Cook's Kitchen, 6¼ to 6½; Dolcoath, 56 to 57; Devon Consols, 12½ to 13; East Buller, 1¾ to 2; East Caradon, 3¾ to 4; East Pool, 28 to 29, ex div.; Glasgow Caradon, 1¾ to 1⅞; Herodsfoot, 3¾ to 4; Hingston Down, 1 to 1⅛; Marke Valley, 1¾ to 2; Phœnix, 5¼ to 5½; Prince of Wales, ⅛ to ⅜; South Caradon, 127½ to 130; South Crofty, 11 to 11½; South Frances, 15¼ to 16, ex div.; Tincroft, 17 to 17½; West Frances, 14½ to 15; West Mary Ann, 1¾ to 1⅞; West Phœnix, 2½ to 2¾; Wheal Agar, 6¼ to 6½; Wheal Crebor, 4½ to 4¾; Wheal Grenville, 8¼ to 8½; Wheal Peevor, 24 to 25; Wheal Uny, 4¼ to 4½.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street, Manchester (March 24), write—Business here continues on a very restricted scale, the dealings that are marked being, with few exceptions, solitary. Though some few shares are realising slightly better figures, the general tendency, except in spinning and manufacturing shares, is downwards, but there are not many which show very material adverse change. Amidst the uncertainty of the present time there seems very little inclination to enter to any extent into fresh obligations, but the indications of the markets tend to show that in the event of a stable Government being assured by the results of the elections business will again improve both in tone and values.

BANKING CONCERNS have a fair share in the business done during the week, and the quotations—with the exception of Lancashire and Yorkshire Bank, which are ½ better—are lower. The chief instances of decline are ½ each in Manchester and Liverpool District and Manchester and County, and 1 in National Provincial.

INSURANCE SHARES are irregular. The movements are—Higher: British and Foreign Marine, ⅛; Thames and Mersey Marine, 3/16; and Liverpool and London and Globe, 1/8.—Lower: Boiler Insurance and Steam Power, ¼; Imperial Marine, ⅛; English and Scottish Boiler, 1/16; and Queen Insurance, 1/16. The transactions are scant and isolated.

COAL, IRON, &c., AND MINING.—The majority of the changes of quotation are again adverse—in fact, the only changes for the better are—½ on Bolckow, A, 60 paid, and ¼ on Bolckow, B; these improvements being seemingly a result of the division of the shares into shares of smaller amount. Parkgate show a decline of 1, Pelsall Coal 1, Chatterley Iron ⅝, Hopkins and Gilkes ¾, Cammells ½, Consett Iron ½, John Brown ½, Tredegar, A, and United States Rolling Stock ½.

COTTON SPINNING AND MANUFACTURING.—The turn which we have mentioned the last two weeks as reasonable to expect, and likely to occur at any time, has taken place, and buyers again are plentiful at figures in some cases several shillings per share in advance of quotations ruling at last report. A large number of companies take stock at the end of this week, and the results which the balance-sheets are expected to show will, it is confidently anticipated, fully justify the late advance in prices, and testify that at present prices, or even at advanced rates, investments in shares of this class are desirable. The rise at present, however, has only extended in any material degree to the best known and popular companies, there being an absence of that indiscriminate all round buying which was the case in the recent general upward movement; still, the pressure to sell for the less popular concerns is considerably abated, and the market throughout is much stronger.

GAS AND WATER, ANNUITIES, AND CORPORATION STOCK.—With the exception of ⅛ rise in Manchester Corporation Consolidated Stock, figures in this class are unaltered.

MISCELLANEOUS COMPANIES have no special feature. Manchester Royal Exchange Buildings are 1, and Freeholders ½ lower, whilst Southport Victoria Hotel are ⅛ higher. Manchester Carriage have produced a few transactions at or about full quotations, and Rochdale Canal and Bridgewater Navigation have changed hands at about best prices lately realised.

RAILWAYS.—The market for British rails has ruled steadily during the past week, and prices generally are rather higher, but business continues very limited, the Easter holidays curtailing the account, coupled with the unsettled state of the country, fully accounting for the lack of activity. The Canada traffic—5800*l*. increase—gave a stimulus to Canadians on Monday, which was further increased by a statement in one of Tuesday's papers that the increased traffic on the Grand Trunk had so far exceeded expectations that it was anticipated the company would be able to pay the First and Second Preference in full, leaving a surplus for the Third Preference. These stocks have maintained the full figures quoted till noon to-day, when they fell away a little, and close to-day slightly under best points touched. Canada, however, maintain full rates marked.

HULL.—Mr. W. F. SUTTON, stock and share broker, St. Mary's Chambers (March 25), writes:—Considering the state of inactivity our markets have been thrown into pending the elections, they have exhibited wonderful strength and firmness, leading us thereby to anticipate another advance in prices so soon as political matters permit of more attention being given to business. Traffics have again been very good, and the spring-like weather cannot fail to have an exceptionally favourable effect on those of the southern lines, more particularly bearing in mind the utterly different state of things existing at this time last year. Trunks and Canadas are firm, on the splendid traffics this week, and these should be continued, if we may judge from a reference to the returns they will have to compare against the next few weeks. Speculative American stocks are weak. The balance of trade is decidedly against that country just now. Local stocks are firm. We quote:—Hull Banks, 11¼ to 12 (3*l*. 10s. paid); Yorkshire Banks, 28 to 28¼; London and Yorkshire Banks, 27s. 6d. to 28s. 6d.; Hull Trams, 10¾ to 11¼; Earle's Shipbuilding, 18 to 18¼; and Kingston Cotton Mill Ten per Cent Pref. (7*l*. paid), 6¾ to 7¼.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, sharebroker and ironbroker (March 25), writes:—During the past week business has been impeded by the elections, as well as the approach of the holidays and settlement. The general tendency of prices has, therefore, been downwards, and it is probable the market is now intrinsically stronger through the closing of weak speculators. Of course so long as the demand for metals continues in its present dull state there will always be the chance of shares falling further, but those who intend to invest should certainly begin to buy now, for a reaction might set in sooner than expected. Undoubtedly, the termination of the elections will have a tendency to make business brisker at latest.

In shares of coal, iron, and steel companies, the movements for the week comprise advances of 2*l*. on Bolckow Vaughan, A, and 1s. on Omoa and Cleland; while Chillington have declined 12s. 6d., Marbella 11s., Steel Company of Scotland 10s., Ebbw Vale 7s. 6d., Monkland 5s., Clyde Coal 4s., Benhar, 3s., Cairntable, Monkland (pref.), and Scottish Australian, each 2s. 6d., also Glasgow Port Washington 1s. 6d. The market for Scotch pig-iron warrants has had a downward tendency from 58s. 7½d. to 54s. 9d. There is not much appearance of a recovery yet, although there has been some good buying, but a favourable reaction will take place next month or May. Benhar 7½ per cent. (pref.) shares still offered, and the ordinary shares are selling from 51s. 6d. down to 47s. A better market might have been expected for colliery shares, seeing the stoppage of Messrs. Dixon's collieries will sensibly affect the coal market in the west by raising prices. The Court of Session has discharged the liquidator of Lochore and Capiedrae in accordance with the petition recently lodged. At the meeting of the Bilbao Iron Ore Company yesterday, a dividend of 6 per cent. was declared on the preference shares, payable this month, and a much larger one expected next time. The half-year's profits of Cammel and Company have been 62,495*l*., which includes 17,389*l*. brought forward, and after paying 5 per cent. dividend, 17,389*l*. will be carried forward. Andrew Knowles and Sons are at 8 dis.; Bolckow, Vaughan, and Co., A, 90 to 91; ditto, B, 45¾ to 46¼; ditto, pref., 21; ditto, stock, 155; Cardiff and Swansea Coal, 50s. to 60s.; Chillington Iron, 4¾ to 5; Clyde Coal, 75s. to 78s.; Cannock and Rugeley (80*l*. paid), 200; Consett Iron, 17¼ prem.; Darlington Iron, 6 dis.; Ebbw Vale, 10 to 10½; Great Western, 82s. 6d.; Henry Briggs, A, 12¾; John Bagnall and Sons, B, 20s. to 25s.; John Brown and Co., 6½ dis.; Llynvi Tondu and Ogmore, 60s.; Mwyndy Iron Ore, 50s. to 60s.; Mersey Steel, 37s. 6d. dis.; Marbella, 60s. to 65s.; Monkland, 60s.; ditto, pref., 6¼ to 7; Nerbudda, 7s. to 11s.; Newport Abercarn, 6½ to 7; Omoa and Cleland, 27s. to 30s.; Parkgate Iron, 14¼ prem.; Pelsall, 60s. dis.; Rhymney, 26½; Sandwell Park Colliery, 19; Shotts Iron, 85; South Wales Colliery, 95; Staveley, A, 29¼ prem.; ditto, B, 95s. prem.; ditto, C, 87½; Steel Company of Scotland, 10½ to 11; ditto, new, 5⅜ to 5½; Thorp's Gawber Hall, 47s. 6d.; ditto, pref., 93⅜; Tredegar, B, 26½; Whitehaven Coal and Iron, 10s. to 30s.

In shares of foreign copper and lead mines the tendency of prices has also been downwards. Tharsis have fallen 12s. 6d. per share; Rio Tinto, 10s.; Canadian Copper, 6s.; and Panulcillo, 5s. A meeting of the Canadian Copper Company is to be held on April 15, to make arrangements for working the property on a larger scale. The Virneberg Copper Company has met a fine lode of copper ore, and last week's return was about 24 tons of good percentage copper. The profit to Panulcillo for the half-year ending Dec. 31 last has been 12,750*l*. net. Tharsis shares fell from 31 to 29⅞, but are now in demand at 30¼; Cape, 38 to 39; Copiapo, 12¼; Hultafall, 35s. to 40s.; Linares, 6½; New Quebrada, 75s.; Panulcillo, 90s.; Rio Tinto (5 per cent.), 91¼

In shares of home mines the market has been dull. Glasgow Caradons are steady at 27s. to 29s. Sales have been difficult to effect unless at reduced prices, but as soon as metals take an upward turn shares will all be in demand again. Aberdaunant are at 2s.; Assheton, 13s. 9d.; Berehaven, 7s. 3d.; Cook's Kitchen, 6½; Carn Brea, 76; Devon Consols, 12¼; Derwent, 75s.; Dolcoath, 53½; East Chiverton, 45s. to 50s.; East Caradon, 80s.; East Pool, 29; East Roman Gravels, 12s. 6d.; East Van, 60s.; Great Laxey, 19; Glenroy, 25s.; Hingston Down, 17s. 6d.; Killaloe, 11s. 6d.; Killifreth, 17s. 6d. to 22s. 6d.; Lady Bertha, 5s. 6d.; Marke Valley, 40s.; Mining Company of Ireland, 77s. 6d.; Mid-Devon Copper, 13s. 9d.; New Kitty, 25s. to 35s.; North Levant, 5; Nant Rhys, 5; Port Nigel, 50s. to 60s.; Prince of Wales, 12s. 6d. to 15s.; Parys Copper, 22s. 6d. to 27s. 6d.; South Crebor, 19s.; South Darren, 67s. 6d.; South Camborne, 3s. 6d.; South Frances, 16; South Condurrow, 10⅝; South D'Eresby, 20s. 6d.; Tankerville, 4½ to 5; Tincroft, 17; Van, 19; West Basset, 16¾; West Peevor, 7¾; West Kitty, 45s.; West Seton, 29; West Pateley, 35s.; Wicklow Copper, 10s. to 12s.; Wheal Bassett, 80s.; Wheal Crebor, 8 to 9; Wheal Comford, 7; Wheal Grenville, 7¾ to 8; Wheal Owles, 7½ to 8; Wheal Prussia, 26s. 3d.; Wheal Uny, 68s.

In shares of gold and silver mines business has been quiet, Richmond remain at 13½, and this week's run is 870,000. There has not been so much demand for Flagstaffs, as the success of the re-construction scheme is doubted, but should it prove successful a good rise might be expected in the shares. The statutary meeting of the Rio Grande Do Sul announced for March 31 is likely to be of a character to give strength to the shares. The produce of St. John del Rey for the first division of March has been 6250 oits., and of Don Pedro, in the same time, 1850 oits. The meeting of Sierra Buttes will be held on April 8 to declare dividends, &c. Tecoma debentures are offered; Australasian Mines are at 5s.; Chicago Silver, 5s.; Colorado, 57s. 6d.; Cedar Creek, 1s. 3d. to 3s. 9d.; Eberhardt, 90s.; Emma, 7s. 6d. to 10s.; Exchequer, 7s. 6d.; Frontino, 67s. 6d.; Glenrock, 12s. 6d. to 17s. 6d. prem.; I.X.L., 7s. 6d.; Kapanga, 10s.; Port Phillip, 12s. 6d.; Pestarena Preference, 20s. to 25s.; Rossa Grande, 5s.; South India, 40s.; Tecoma, 2s. 6d. to 5s.; United Mexican, 60s.

In shares of oil companies Uphall have advanced 5s. per share, while Broxburn are reduced 5s., and Young's Paraffin 1s. 3d., latter after touching 12*l*. 1s. 3d., have improved to 12*l*. 5s. Runcorn Soap and Alkali 5s. prem.

In shares of miscellaneous companies there is no particular alteration to notice. The second instalment of the London and Glasgow Engineering and Iron Shipbuilding Company's dividend of 5 per cent.—12s. 6d. per share—is now payable. The Limmer Asphalte Company has declared a dividend of 1s. per share, and its prospects for current half-year are very good. The report of the Val de Travers Asphalte Paving Company for 1879 shows profits, including balance of previous year, were 5941*l*. nett, and the dividend is to be 7s. per share, carrying forward 2441*l*. Birmingham and Midland Counties Val de Travers Asphalte, 12s. 6d.; Earle's Shipbuilding, 16⅞ dis.; Hopkins, Gilkes, and Co., 70s.; Neuchatel Asphalte, 10s. to 15s.

Wagon companies, Scottish new shares are reduced 2s., at 62s.; Birmingham are at 15¼; Bristol and South Wales, 6½; Gloucester, 10s.; Metropolitan, 67s. 6d. prem.; Railway Carriage preference (6 per cent.), 95s.; Railway Rolling Stock, 5; Swansea, 80s.; United States Rolling Stock, 17 to 18. Prices of chemical companies shares are—Langdale's, 60s.; Lawe's, 6; and Newcastle, 95s.

EAST CHIVERTON MINE.—Those who doubt the reality of the prospects of this mine should go to see it for themselves. We have seen a few specimens of ore from it; they are all of the same character, and the specimens from the 40 were really good. In fact, if it were a foreign mine the report would state that it was not lead, but silver ore. The ore of this mine is very rich in silver all through.

GLASGOW CARADON CONSOLS COPPER MINING COMPANY.—(Limited).—This month's sale of 160 tons of copper has realised 619*l*. 16s., or an average of 77s. 5d. per ton; last month's sale of 160 tons realised 82s. 4d., while the sales in the month of March for some years past have been:—In 1879, 190 tons at 46s. 5d.; in 1878, 210 tons at 46s. 5d.; in 1877, 240 tons at 89s. 8d.; in 1876, 260 tons at 117s. 2d.; in 1875, 240 tons at 106s. 2d.; and in 1874, 250 tons at 78s. This is the company's third sale for the current financial year, and the proceeds of these sales, as compared with the corresponding period of 1879, show a decrease of 96 tons on the total amount of ore sold, but the money realised is 45*l*. more.

LADY ASHBURTON SILVER MINING COMPANY (Limited).—This property is situated in the mining district of Callington, Cornwall. The sett contains five east and west lodes of silver, tin, and copper, running through its entire length; one of the lodes at no greater depth than 4 fms. produced silver ore of the value of 134*l*. per ton, and selected lots equalled in yield to silver at 4000 ozs. to the ton. It is expected that before this lode is developed 20 or 30 fms. deeper they will meet with a rich course of silver. Capital 30,000 in 1*l*. shares.

MUNTZ'S METAL COMPANY (Limited).—The report of this company states the past year's profit was 33,919*l*., which includes the balance brought forward of 11,749*l*. The directors propose to make the year's dividend 10 per cent., to set aside 2000*l*., for all debts, &c., to write off 1825*l*., for machinery, tools, land, and buildings, leaving 12,216*l*. to carry forward.

NORTH MOLTON MINING COMPANY (Limited).—This company is progressing satisfactorily, and regular reports will soon be issued of the operations by the new manager. The sett and plant are very large. They have also a full supply of water available for pumping and dressing the ores—thus saving the heavy outlay for coals which is in most mines necessary. The copper lode will pay for working, with prospects of improvement in depth, while the iron ores are likely to yield immediate profits. Shares continue firm at 15s.

MINERAL POINT TUNNEL COMPANY (Limited).—The sale of this company's stock will be stopped after the end of this month, as the syndicate who bought all of it that was in the market will after that date offer it at a premium only. At the mine they are now working out the Norris vein, and it is looking well.

PRICE'S PATENT CANDLE COMPANY (Limited).—The sales in 1879 were 8785 tons, comparing with 8794 tons in 1878; profit, including last year's balance, was 21,728*l*. The dividend on the ordinary shares is to be 8s. each, or 2 per cent., leaving 4644*l*. to carry forward. This is 2384*l*. less than last year's balance, but the insurance fund is increased by 4377*l*., and now amounts to 32,398*l*.

EDINBURGH.—Messrs. THOMAS MILLER and SON, stock and sharebrokers, Princes-street (March 25), write:—The home railways market during the past week has been quiet and firm. Canadians have rallied on improved traffics. Mining shares bave been rather weak. Benhars, after declining from 51s. to 48s. 6d., have risen to 49s. 6d.; Canadian Copper have fallen from 57s. to 49s., Clyde Coal from 78s. to 75s. 6d., Marbella from 74s. 6d. to 65s., Monkland Iron from 67s. to 60s. Bank stocks are steady. In insurance shares, Scottish Commercial have risen from 31s. 6d. to 38s. 6d.

IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKET.

CORK.—Messrs. J. H. CARROLL and SONS, sharebrokers, South Mall (March 24), write:—Markets were generally firm to-day. Great Southern closed at 111⅝, and Great Northern at 123⅛ to 123⅝, but Dublin and Wicklow were easier at 94. National mark a rise, being done at 61¾ to 62¼; Munster, 6¾ to 13-16ths; New Munster at 9s. 9d. to 10s. premium. Packet unchanged. Harbour Board debentures done at 101¾. Goulding and Cork Gas shares enquired for. Daly sellers at price.

THE WEEK

SATURDAY, MARCH 20.—Owing to the attractions at Putney the markets were thinly attended, but the tone was good. Districts were put up 1 per cent. on their luck of having two boat-race days. The Scotch lines were well supported. North British advanced as much as 1¼ and Caledonian ⅝. Chatham Preference closed nearly at par. Brighton, A, remained at 144 and Dover, A, at 124½. Atlantic First Mortgage left off at 62 and the common stock at 7½ to 8. In mining shares a considerable business was done in Eberhardt, Flagstaff, Don Pedro, Richmond, and Cape Copper.

MONDAY.—Very little business was done to-day, but prices were kept up until towards the close, when a few orders to sell brought them down rather sharply. Most issues closed at a fall of from ½ to ¾. A good increase on the part of Grand Trunks induced some considerable buying. It is thought there is now a chance of the Second Preference having its interest paid in full as well as the first. The ordinary stock advanced to 20¾, the First Preference being 73, and the Seconds, 53½. Great Western of Canada rose in sympathy to 11¾.

TUESDAY.—All the Grand Trunk issues are exceedingly buoyant. A large number of the weak operators for a rise have been squeezed out the last few weeks, and the account is now in a healthy condition for a good rise. The Second Preference advanced no less than 3½, to 57, the price of the Third Preference advancing 1⅝, and the Ordinary stock ⅜. Western of Canada rose to 12, in sympathy. Home railways were at first offered, and in some instances marked a considerable decline, but before the finish most stocks scrambled back to the prices of the previous day. Fresh business was much wanted.

WEDNESDAY.—A large amount of Grand Trunks were unloaded to-day, which checked the rise, but did not put quotations down. Others who were early in the field closed their accounts in view of the approaching holiday, on the termination of which the settlement commences. Western of Canada shares advanced to 12⅛. Home railways rose in the morning, traffics being good, but here also the same disposition was shown to close, and ultimately prices were down in most instances on the day. Tin shares closed rather flat, Dolcoath, Tincroft, and others being freely offered. Prince of Wales advanced to ⅝, ⅞.

THURSDAY.—Grand Trunks were sold in the morning, then rallied, and closed firm. One or two home railways, notably Brighton, A, and Dover, A, were in some request, but only a moderate business was done. Tin shares were firmer, buyers offering the prices sellers yesterday would gladly have taken. Phœnix, 5 to 5⅛; Roman Gravels, 10¼ to 10¾; Parys Corporation, 1¼ to 1½; Peevor, 24 to 26; Herodsfoot, 3½ to 4; D'Eresby Consols, 4 to 5; Ruby, 5¼ to 5½; Javali, ¾ to ½; Frontino, 3¼ to 3½; Glenroy, 20s. to 25s.; Panulcillo, 4¼ to 4½; New Quebrada, 3⅝ to 3¾; Eberhardt, 4¼ to 4½; Port Phillip, 10s. to 12s. 6d.; Victoria, ⅜ to ½; Almada, ½ to ¾; Don Pedro, 20s. to 25s.

FERDINAND R. KIRK.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

CARNARVON COPPER.—If our correspondent of last week will refer to the *Mining Journal* of January 10 of the present year he will find a plan of this mine, and a few particulars respecting it. The mine had returned about 100,000*l*. worth of copper ore, when the lode at the 80 dipped so far away from the shaft that a new shaft had to be commenced from surface at great expense to get into the run of that particular course of ore, and also of another which was dipping towards it. In 1873 we had the mine inspected by Captain Mitchell, of Parys Mountain, and upon his report ourselves and two or three clients put down 6000*l*. towards continuing the new shaft, and driving towards the ore ground. We got the shaft down 90 fms., and drove the cross-cut within 12 fms. of getting under a rich course of ore, when the money became exhausted, and as copper had fallen very much the water was let into the mine, and it was temporarily suspended, after an expenditure on the part of the vendor and those who advanced the 6000*l*. of more than 12,000*l*. In January, when copper rose in value, it was determined to put the concern into 20,000 shares of 1*l*. each. For the mine and all its machinery and plant, work done, &c., the vendor took 12,000 fully paid-up shares. There were 5000 issued and paid upon for a working capital of 5000*l*., and 3000 are held in reserve. We calculated that it might take six months to fork the water and drive the 90 to get under a rich winze worth 6 tons of copper ore per fathom; and then if results are such as we have every reason to expect shares may go to a high price. Before this is known there is nothing to cause any change in the shares. We hold very largely ourselves, and our friends also hold very largely, and we intend to wait the result of the cross-cut with every confidence. There can be no doubt that many people applied for shares simply for the purpose of selling out again at once if a premium were obtainable, but this is not mining. A few speculators who begged us to let them have shares seemed to think that we should get up the market and so give them a premium (without any change at the mine) for what we let them have at par! We have no doubt in our own minds that before this year is out shares will be at a high premium, not from market operations, but from the merits of the mine, and those who have shares should wait. In fact, in Carnarvon and Prince of Wales Mines for copper, in Polrose for tin, and in D'Eresby Mountain and Aberllyn for lead, there are as good, if not better, chances for a great coup this year than there was twelve months ago in Wheal Crebor.

Aberllyn has sold 50 tons of blende for 3*l*. 3s. per ton. Like lead blende is lower in price.

MR. WILLIAM H. H. WATSON, DEALER in RAILWAY STOCKS and MINING SHARES at net market prices of the day.

A few months ago W. H. H. W. called particular attention to Wheal Crebor, and supplied his clients with them at 5s. to 10s. each. He would now call attention to POLROSE MINE, in which there may be a great rise in a few months. Shares are now £2¼, £2½.

Address: W. H H. WATSON, 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

PURIFYING STEEL AND IRON.

From the pig-iron containing phosphorus, steel or fluid iron is, according to the invention of Mr. A. KRUPP, of Essen, produced in any suitable manner, the product having the same or even a somewhat higher percentage of phosphorus. This phosphor-containing steel or iron is in a fluid state conveyed into any suitable moveable or stationary purifying furnace while the slag is kept back; the hearth of the furnace has a basic or neutral lining. In this furnace the steel is by means of basic iron or manganese oxides, or by both together, purified in the same manner as the iron in the so-called Krupp process, but with the difference that it is not essential in the present invention to preserve the carbon. The loss of the whole of the carbon does not injure the fluidity of the steel if it be conveyed into the purifying furnace sufficiently hot; hence, one can go much further by the purification of steel than by the purification of pig-iron, in which latter process the purification has to be interrupted after the carbon has begun to oxidise.

The process is of special importance in connection with the production of Bessemer steel, and although it may at first sight appear more complicated than the Thomas process, the object in view is attained with greater certainty and independently of accidental circumstances, and the process is also materially cheaper. Steel containing very little carbon, silicium, and manganese flows from the converter into the purifying furnace. The action of the purifying materials can thus be almost exclusively confined to the phosphorus, and will thus act much more intensely thereon and be far better utilised than in Krupp's pig-iron purifying, process in which the manganese and silicium have to be got rid of. By the consumption of less purifying material the steel will be purified at less expense than by the already cheap purification of melted pig-iron. It is quite the opposite in the Thomas process, which involves a very great consumption of purifying material, and therewith necessarily great loss of heat; these are weak points causing many difficulties and expenses which are obviated in this present invention. The Bessemer steel purified according to this invention flows out of the purifying furnace as a product similar to the Thomas steel from the converter.

IMPROVED FURNACE LINING.—Some improvements in the combination of materials to be used for lining furnaces, converters, &c.' used in the manufacture of iron and steel, have been invented by Mr. WILLIAM CROSSLEY, of Dalton-in-Furness, the essential feature being the use of a basic lining made of lime, limestone, magnesian limestone, or magnesian limestone lime, or mixtures of them in combination with aluminate of soda or aluminate of potash or a mixture of both. The lining can be used in either the Siemens-Martin or other furnaces, or in Bessemer converters, and may be put in and rammed to the shape of the furnace, or it may be moulded and burnt into bricks. The invention relates, secondly, to the use of a basic mixture of lime and oxide of iron, in combination with aluminate of soda, or aluminate of potash, or a mixture of both. The object of these mixtures being to absorb and retain the phosphorus in the iron or iron ores, and the use of alumina in combination with soda or potash, enables him with advantage to fix or rather retain the soda or potash, so that it has time to assist in dephosphorising the iron, and to which may at the same time reduce the quantity of slag compared that produced by some other processes. It will also make the process of manufacturing iron or steel more readily workable than where lime and oxide of iron are used, either alone or in association with manganese, and in many ways facilitate the operations. In some cases, besides using the combination in the lining, and in cases where other kinds of lining are used, he introduces the mixture of aluminate of

soda, or aluminate of potash, or mixtures of both into the charges of ore or metal, or charges of ore and metal, or charges of ore and flux, or ore, metal, and flux. The proportions of aluminate of soda. or aluminate of soda, or mixtures of both which he prefers to use vary from 5 per cent. to 20 per cent. of the mass of lining or of the dephosphorising mixture used apart from the lining, according to the composition of the other materials used in such lining or mixture, and varying in the mixture used for dephosphorising, also according to the variation in the composition of the iron used.

PULVERISING CHINA CLAY.—An improved means of reducing to a fine powder the materials used in the manufacture of china and earthenware has been invented by Mr. W. H. TURNER, of Tunstall. He proposes to employ a machine constructed by preference with a cylindrical centre part tapering towards each end, and having one or two hollow trunnions or axles of large diameter, the same being supported or carried by friction rollers and driven by belt, spur, or other as may be most convenient. The material to be ground or reduced is fed into the machine through one axle and drawn off through the opposite axle when sufficiently fine by means of a draught of air or other gas produced by fan-blower or other means, and conveyed through suitable chambers where the material of its own gravity may fall to the bottom, to be conveyed by creeper, worm, or suitable means into casks, or into an agitator to be mixed with water as may be required.

PURE BASIC REFRACTORY MATERIALS FOR METALLURGICAL PURPOSES.—According to the invention of Mr. E. F. ALTHANS, of Breslau, a body consisting of unburnt marble or chalk, or mixtures of these, or of dolomite as free as possible from substances having an acid reaction, silica, alumina, or metallic oxides, and ground very fine, is mixed with soda or potash, or their carbonates, as binding ingredients, and is moistened with water, and this compound is either used in a plastic state directly as a lining for furnaces, or as a cement, or it is formed into bricks or slabs, or into crucibles or other receptacles, and dried and used for metallurgical operations, Before use the apparatus are first gradually warmed, and then heated to the required temperature. The moist raw material also serves for repairing the walls or sides of the apparatus that have been subject to heat. The above-mentioned soluble binding ingredients may be advantageously applied as aqueous solutions, either alone or in combination. According to a modification the binding ingredients consisting of alkalies or alkaline earths or of chlorine compounds thereof, or of materials having analogous properties, can be advantageously mixed with fluor spar or cryolite in order to increase their binding properties at high temperatures. Practically he finds the addition of about 1 per cent. of calcined soda or potash, and of 1 per cent. of fluor spar or cryolite suffices. The refractory material prepared according to either of the above processes when formed into bricks or vessels can be burnt or fired in ordinary kilns or ovens, it then becomes hard like stoneware, but it should be kept free from moisture.

CORNISH PUMPING-ENGINES.—The number of pumping-engines reported for February is 16. They have consumed 1541 tons of coal, and lifted 11·1 million tons of water 10 fms. high. The average duty of the whole is, therefore, 48,400,000 lbs. lifted 1 ft. high by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Carn Brea—76 in.	Millions	48·4
Dolcoath—85 in.		59·2
Mellanear—Gundry's 80 in.		50·0
West Basset—Grenville's 70 in.		49·1
West Wheal Frances—58 in.		52·7
West Wheal Seton—Harvey's 85 in.		66·0
West Wheal Seton—Rule's 70 in.		66·7

CHEMICALS, MINERALS, AND METALS.—Messrs. J. Berger Spence and Co. (March 20).—Alum: Loose Lump, 6*l.* 15s.; ground, 7*l.*—Arsenic: Best white powdered, 10*l.* 15s.—Bleaching Powder, 7*l.* 12s. 6d.—Borax: Refined English, 65*l.*—Copperas: Green, 50s.—Copper: Sulphate, 23*l.*—Nitrate of Lead, 31*l.*—Nitrate of Soda: 19s.—Potash: 11½d.—Soda: Cream Caustic, 10*l.* 10s.—Sulphate of Zinc, 10*l.* 10s.—Sulphur: Roll, 8*l.*; flour, 10*l.*—Tin crystals, 7½d. per lb.—White lead, 21*l.* 5s.—Brimstone: Best thirds, 6*l.* 10s.—China-Clay, 39s.—Manganese: Sulphate, 16*l.* 15s.—Ochre, 5*l.* 15s.—Oxide of Zinc, 25*l.* 10s.—Talc, 5*l.*—Umber, 50s.—Copper: Best ingot, 77*l.*; seconds ingot, 76*l.*—Lead: Best soft English, 17*l.*—Pig-Iron, Forge, 57s.—Spelter, 21*l.* 10s.—Tin: British common block, 96*l.*—Naphtha, Miscible, 5s.

HOLLOWAY'S PILLS.—The extraordinary range of temperature prevailing in our climate is extremely trying to the delicate-chested, the weak, and nervous. All troubled by these afflictions should resolve to resort to this strengthening and regulating medicine immediately they perceive in themselves discomfort or that feeling of restlessness which betokens disordered digestion and defective secretion of bile. One of Holloway's pills taken about noon and followed at bed-time by a dose sufficiently large to act aperiently will speedily recruit the faculty functions and restore order throughout the whole system. A treatment so safe in operation, and so successful in result, should be known and practised when, from cold and sundry other causes, disease is attempting to gain a vexatious footing.

NORTH LAXEY MINING COMPANY
(LIMITED). *IN LIQUIDATION.*

ALL PERSONS CLAIMING to be CREDITORS of the above-named NORTH LAXEY MINING COMPANY (LIMITED) are required, on or before the 10th day of April proximo, to send in writing a notice containing their NAMES and ADDRESSES, and the particulars of their DEBTS or CLAIMS, to the Liquidators, addressed to the care of Mr. JOHN HENRY MURCHISON, 8, Austinfriars, London; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION OF ASSETS made before such notice shall be received.

GEO. BLOGG,
J. H. MURCHISON,
JAMES SPITTALL, } Liquidators.

Dated this 23rd day of March, 1880.

THE LUSITANIAN MINING COMPANY
(LIMITED).

Notice is hereby given, that in accordance with the Deed of Settlement the ORDINARY GENERAL MEETING of this company will be HELD at this office on THURSDAY, the 8th day of April next, at Three o'clock in the afternoon.

It is proposed that this meeting shall be held *pro forma* only, and adjourned to a time then to be fixed.

By order of the Board,
W. G. WILLIAMS, Secretary.

6, Queen-street-place, London, E.C., March 25, 1880.

CWM DWYFOR MINING COMPANY
(LIMITED).

Capital £20,000, in 20,000 Shares of £1 each. Subscribed capital (Ordinary and Preference), £10,276.

ISSUE OF SHARES at 10s. per share discount. A small number of these shares remain for allotment.

Applications must be addressed, on or before 31st instant, to the Secretary, St. Clement's House, Clement's-lane, E.C., of whom full information can be obtained.

GOLD MINING IN NORWAY,

about forty-nine miles from CHRISTIANIA and within seven miles from railway. This Mine has been worked by a Norwegian Company, which however for the want of sufficient capital and competent managers has been compelled to cease working, although gold was found only a little way down the shaft. A gold digger from California washed gold from the waste of the mine to the value of £400. The property can be had for a very low price, and the mine is well worth the inspection of gentlemen inclined to speculate in it.

For further particulars apply to Mr. S. ENGELRETSEN, Proprietor of "Kampen Foundry," Christiania, Norway.

PIERCE S. HAMILTON, PRACTICAL GEOLOGIST,

SURVEYOR, AND MINING ENGINEER AND AGENT, OFFERS HIS SERVICES in either of these capacites to those interested or desirous of investing in MINING PROPERTY in the PROVINCE OF NOVA SCOTIA or elsewhere in the DOMINION OF CANADA.

Having for years filled the administrative position of Chief Commissioner of Mines for Nova Scotia, and having both before and afterwards been himself largely engaged in Mining operations, Mr. HAMILTON has had exceptionally good opportunities of informing himself as to the variety, extent, and character of the mineral deposits of that Province, and as to the most economical and effective method of working them.

ADDRESS—PIERCE S. HAMILTON, HALIFAX, NOVA SCOTIA
DOMINION OF CANADA.

THE "SCIENCE OF INVESTMENTS."—

Twentieth thousand, 8vo., 100 pp., price 1s., published end of January by
RICHARD TREDINNICK, C.M.E.
FORTY YEARS' ASSOCIATE with FINANCE and STOCK and SHARE BUSINESS.
6, Mildmay Chambers, 82, Bishopsgate-street Within, London, E.C.

TO INVESTORS.—It is very important to Investors in Mines, to proposed Mines, to have RELIABLE Information as to the character of the properties in which they intend to invest. The undersigned undertakes to give such information in relation to any mineral property situate between Tavistock and the Land's End, on the receipt of a fee of Three Guineas for time and expenses.—T. SYMONS, Mining Engineer and Surveyor, 11, Parade, Truro.

EXETER BISHOPRIC ESTATES.
CARGOLL MANOR.

THE ECCLESIASTICAL COMMISSIONERS FOR ENGLAND are in a position to GRANT LEASES to RESPONSIBLE PARTIES for the WORKING OF MINES in certain lands forming part of CARGOLL COMMON, and bounded on the north-east by the ESTATE called "TRELUDDRA," and by the road leading from ZELAH to NEWLYN EAST.

The Mines that have been worked in the district have been very rich for lead, and South Shepherds Mine, which is situated in the above-named lands, and which was worked down to the year 1834, is reported to be a very valuable one.

Applications may be made to—
Messrs. CLUTTON, 9, Whitehall-place, London, S.W.;
Or to their Local Agent,—
Capt. JOSIAH THOMAS, Tregenna Villas, Camborne.

IN LIQUIDATION.

FORCE CRAGG LEAD AND BARYTES MINE AND WORKS,
SITUATE AT BRAITHWAITE, NEAR KESWICK, IN THE COUNTY OF CUMBERLAND, FOR SALE.

TENDERS will be received by the UNDERSIGNED, on or before the 26th day of April, 1880, stating the HIGHEST PRICE which will be given for the above VALUABLE MINE and WORKS, now in full working order. The sett is a very large one, and contains veins of COBALT, MANGANESE, LEAD ORE, and BARYTES. A tramway runs through the sett, and there are two mills driven by water power for grinding barytes, plant for bleaching barytes; set of stamps and water-wheel for crushing lead ore. Royalty very low, and dead rent only £25 a year, merging into royalty.

T. Richards, Esq., F.G.S., Bond-street, Redruth, inspected the property recently, and his report, with any further information required, can be had on application to Mr. JOHN FEARON, Accountant, Cockermouth, one of the Liquidators, Cockermouth, March 8, 1880.

CORNWALL, NEAR ST. AUSTELL.

THE ROCHE FELSPAR WORKS,
As a Going Concern.

THE VALUABLE LEASE, together with the PLANT and STORES.

MESSRS. MARSH, MILNER, AND CO. WILL SELL, BY AUCTION, at the Mart, in the City of London, on Thursday, April 15, at Two o'clock, in One Lot, the VALUABLE LEASE of the above, held for about twelve years at £15 per annum (merging in royalty). There are good road approaches, and railway accommodation near.

Particulars of Messrs. E. and E. LEADHAM HOUGH, Solicitors, Carlisle: Messrs. HOLMES, SPENCE, and Co,. Accountants, 10, Royal Arcade, Newcastle-upon-Tyne; and at 54, Cannon-street.

TO BE SOLD BY PUBLIC AUCTION, under Decree of the Supreme Court of Newfoundland in Equity, in a suit between CHARLES FOX BENNETT, Plaintiff, and SMITH, MCKAY, and LEANDER GILL, Defendants, on Thursday, the 1st day of July next, at Twelve o'clock noon (if not previously disposed of by private sale), at the Court House, St. John's, Newfoundland, that VALUABLE COPPER MINE and MINING PROPERTY called and known as the

UNION MINE,

Situate on the east and west sides of Tilt Cove, on the north side of Notre Dam or Green Bay, Newfoundland, and near Cape John, with all erections, improvements, plant, and other property and effects thereto appertaining.

The Mine is held under Grant in fee from the Government of Newfoundland, containing two miles in length by half a mile in breadth; a License of Occupation from the said Government containing one mile square west of and adjoining the Crown Grant, and land held under conveyance of feesimple interest of former owners.

The title-deeds and documents, plans and surveys and Conditions of Sale of the property may be seen, and further information may be obtained, by application to PRESCOTT EMERSON, Esq., Q.C., Master in Chancery, at his office, in St. John's, or to either of the undersigned solicitors for the parties, or to either of the parties.

PRESCOTT EMERSON, Q.C.,
Master in Chancery, St. John's, Newfoundland.

January 23rd, 1880.

For further particulars apply to C. T. BENNETT, Esq., 55, Queen's-square, Bristol; Messrs. HENRY BATH and SON, Gresham House, London; or, to PINSENT and GREENE, Solicitors for the Plaintiff; WINTER and CARTER, Solicitors for Defendant, MCKAY.

VALUABLE FREEHOLD COLLIERY WITH COAL AND IRONSTONE MINES.

TO BE SOLD, either the WHOLE or PART of LESSOR'S INTEREST in a LARGE FREEHOLD COLLIERY in one of the North Midland Counties, also a LARGE AREA of LEASEHOLD COAL, with power to work thereout as much as possible during eleven years, without any further payment to Lessor.

The coal is of high repute in the London and Southern Markets, and the plant is powerful and efficient, and included in the Lessor's interest, and is capable of raising a minimum of 4000 tons of coal per week. There is ample siding accomodation in connection with the Midland Railway Company's Main Line to London.

The Advertiser would be prepared to CO-OPERATE with the PURCHASER in WORKING the COLLIERY, finding his proportion of Capital for such purposes.

For particulars, apply to Messrs. J. and P. HIGSON, Civil and Mining Engineers, 13, Crown Buildings, Booth Street, Manchester.

TO BE SOLD, BY PRIVATE TREATY, the WHOLE of LESSOR'S INTEREST in a SLATE QUARRY, situate within six miles of the well-known Slate-producing district of Festiniog, and about five minutes walk to railway accommodation.

For particulars, apply to D. WASHINGTON DAVIES, Fadfilldir, Trawsfynydd, Merioneth.

RED HEMATITE IRON ORE.

A VALUABLE and EXTENSIVE PROPERTY (worked to great profit) FOR SALE under special circumstances. Bona fide buyers only treated, and a personal interview is desired.

Address, "Hematite," care of G. H. Ellis, Esq., No. 29, Moorgate Station Buildings, E.C.

IRON ORE—RED HEMATITE.

FOR SALE, LARGE OR SMALL CONTRACTS, at low prices, for delivery by ship or rail.

Address, "Steel," care of Messrs. A. H. Baily and Co., No. 3, Royal Exchange Buildings, E.C.

FOR SALE,—COPPER PYRITES PROPERTY, of considerable extent, situated in PORTUGAL. Strong lodes. Assays have given high percentage.

HANNAN, WATSON, AND CO.,
GLASGOW.

FOR SALE, a FREEHOLD PROPERTY, containing a deposit of GOOD BROWN HEMATITE IRON ORE, which can be mined and delivered into South Wales for about 7s. 6d. per ton.

Apply to PAGEN and Co., Metal and Mineral Brokers. &c., 41, Geoe-street Plymouth.

FOR SALE, a FIRST-CLASS SECOND-HAND 80 in. CORNISH PUMPING ENGINE, with several 11 ton BOILERS.

Apply, WM. BENNETTS, Roskear, Camborne.

PUMPING MACHINERY ON SALE.

ONE HIGH PRESSURE INVERTED PUMPING ENGINE, in excellent condition, cylinder 60 in. diameter and 9 ft. stroke; Cornish valves; cataract; wrought iron main beam, 36 ft. long; cast iron balance beam, box, and weights.

ONE PAIR coupled HORIZONTAL CONDENSING PUMPING ENGINES, cylinders 18½ in. diameter, 4 ft. stroke; heavy fly wheel, 14 ft. diameter; pinion, 4 ft. 2 in.; spur wheel, 11 ft. 9 in.; pumping crank; wood slide rods, and two cast iron L legs.

FORCING SET, 120 yards long, with 12 in. cast iron ram, 9¾ in. diameter trees, and 10 in. square pitch pine main rod.

LIFTING SET, 80 yards long, with solid brass working barrel, 11⅝ in. diameter, 9 ft. long; 12¾ in. diameter trees, and 5½ in. square pitch pine rods, sinking slide, and windbore.

LIFTING SET, with brass working barrel, 10½ in. diameter and 10 ft. long, with clack and bucket pieces and windbore, and 48 yards of 12 in. trees.

BUCKETS, CLACKS; has just ceased working

Apply to—
H. BRAMALL AND CO., SANKEY BROOK COLLIERIES,
ST. HELEN'S, LANCASHIRE.

FOR SALE, a 60 inch cylinder Cornish PUMPING ENGINE and 10 ton BOILER.

Apply to Mr. JOHN HOCKING, Jun., Trewirgie-road, Redruth.

PATENT TRUCK WINCHES, HAULING ENGINES, &c., for over and underground purposes. Worked with air or steam. Strong, simple, and effective.

A. HIGGINSON AND CO.,
56, TOWER BUILDINGS, E., LIVERPOOL, W.

PIT SINKING, WINDING COAL, PUMPING, &c.

PORTABLE STEAM ENGINE FOR SALE, with two 13¼-inch cylinders, fitted with link-motion reversing gear, large boiler, with or without road travelling wheels, and winding and pumping gear.

Also a double 9½-in. cylinder PORTABLE ENGINE.

A 9½-in. cylinder VERTICAL ENGINE, with winding drum, complete.

An 8-in. cylinder VERTICAL HOISTING ENGINE, with winding drum complete. To be seen at—

BARROWS AND STEWART'S WORKS, BANBURY, OXON.

LOCOMOTIVE TANK ENGINES

FOR MAIN LINE TRAFFIC, SHORT LINES, COLLIERIES, CONTRACTORS, IRONWORKS, MANUFACTORIES, &c., from a superior pecification, equal to their first-class Railway Engines, and specially adapted to harp curves and heavy gradients, may always be had at a short notice from—

MESSRS. BLACK, HAWTHORN, AND CO.,
LOCOMOTIVE, MARINE, AND STATIONARY ENGINE WORKS,
GATESHEAD-ON-TYNE.

THE BIRMINGHAM RAILWAY CARRIAGE AND WAGON COMPANY
(LIMITED

MANUFACTURE RAILWAY CARRIAGES and WAGONS of EVERY DESCRIPTION, for HIRE and SALE, by IMMEDIATE or DEFERRED PAYMENTS. They have also WAGONS FOR HIRE capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract.

MANUFACTURERS also of IRONWORK, WHEELS, and AXLES.
EDMUND FOWLER, Managing Director.
WORKS,—SMETHWICK, BIRMINGHAM.

CAPTAIN W. TREGAY, M.E., REDRUTH,
ADVISES ON and INSPECTS ALL KINDS of METALLIC MINES.

C. H. WALKER AND CO.,
MINING AGENTS AND ENGINEER
VALPARAISO AND SANTIAGO,
CHILE.

CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.
13, St. James's Square, London, S.W.
City Branch: Mansion House Buildings, E.C.

DISTINCTIVE FEATURES.

CREDIT of half the first five Annual Premiums allowed on whole-term Policies on healthy Lives not over 60 years of age.

ENDOWMENT ASSURANCES granted, without Profits, payable at death or on attaining a specified age.

INVALID LIVES assured at rates proportioned to the risk.

CLAIMS paid thirty days after proof of death.

BONUS.

The Reversionary Bonus at the Quinquennial Division in January, 1877 amounting to £357,014), averaged 50 per Cent., and the **Cash Bonus** 30 per ent., on the Premiums paid in the five years.

The Next Division of Profits *will take place in January*, 1882, *and Persons who effect* **New Policies before the end of June next** *will be entitled at that ivision to one year's additional share of Profits over later Entrants.*

REPORT, 1879.

The **55th** Annual Report, and the latest Balance Sheets rendered to the Board of Trade can be obtained at either of the Society's Offices, or of any of its Agents.

GEORGE CUTCLIFFE, ACTUARY AND SECRETARY.

THE BODEGA,

86, 87, 88, BISHOPSGATE STREET WITHIN.

Wines of the well known brand of the BODEGA are sold in dock sample glasse by the bottle, dozen, and quarter cask. Champagnes of every noted shipper by the bottle and glass. The prices are graduated from the wholesale shipment to the single glass. It is this system which has won for the BODEGA its great success, and which has been pointed out at great length both in the Times and other journals.

The premises stand on the historic site of the old Green Dragon, and are the largest in the United Kingdom devoted to the sale of wines wholesale and retail.

"The convivial spirit of the old house still haunts the spot, and refuses to be exorcised. . . . It is just the place for a Mining Exchange, and by the silent but irresistible law of fitness it seem already to have been so constituted."—*Mining Journal.*—"The cosiness of a private club and the economy of the BODEGA are most happily combined."—*Continental Gazette.*

Also at 42, GLASSHOUSE-STREET; 13, OXFORD-STREET; 5 and 6, BUCKLERSBURY; THE ARCHES, LUDGATE HILL; and 72, MARK-LANE, LONDON.

GEOLOGY.—In the Preface to the Student's Elements of Geology, by Sir CHARLES LYELL, price 9s., he says—"As it is impossible to enable the reader to recognise rocks and minerals at sight by aid of verbal descriptions or figures, he will do well to obtain well-arranged collections of specimens, such as may be procured from Mr. TENNANT (149, Strand), Teacher of Mineralogy at King's College, London." These collections are supplied on the following terms, in plain mahogany cabinets:—

100 specimens, in cabinet, with	3 trays	£	2	2 0
200 ,, ,,	5 ,,		5	5 0
300 ,, ,,	9 drawers		10	10 0
400 ,, ,,	13 ,,		21	0 0

More extensive collections at 50 to 5000 guineas each.

Mr. TENNANT gives instruction in Geology and Mineralogy at 149, Strand.

FORTUNATE SPECULATION — SYNDICATE — PROBABLE FORTUNE FOR THE OUTLAY OF £10 (Instances have occurred where with far less brilliant prospects, £1 has realised £1000) connected with the promotion of a new and valuable Chemical Invention and Enterprise for the Economical and Very Profitable Treatment of the Low-Class Silver Ores which abound in Mexico, Peru, Chili, and the New World, more especially the silver mines of Leadville, Colorado, where 2 tons of solid silver are now being daily returned from the higher class ores, and statistics prove that for each ton of rich ore averaging 100 ozs., concentrated by the costly method of smelting, with coals at £5 per ton, more than 20 tons of poor ore, assaying 15 ozs. silver per ton, are thrown aside as valueless. The process will act equally as well upon the rich as the poorer ores. It is proposed to form a Syndicate of £1000 to practically prove the value of the process at Leadville, upon a small scale of 10 tons per day, when capital to any required extent will be forthcoming, both upon the spot and in England, for erecting extensive works, securing mineral grants, and promoting mining companies generally. The invention can also be leased to mine owners upon royalty. No money whatever is now asked, but merely subscriptions for £1000 invited, and when obtained a meeting of subscribers will be held, the amount collected, and definite arrangements decided upon.

Detailed convincing particulars of "Inventor," MINING JOURNAL Office, 26 Fleet-street, London, E.C.

CAPTAIN JOHN WEBSTER (who has been managing the Aznalcollar Copper Mines of the Seville Sulphur and Copper Company, Limited, for the last six years with considerable success) will be giving up his present engagement on 30th April proximo, and is prepared to ACCEPT a SIMILAR POSITION at HOME or ABROAD, or to REPORT UPON MINING PROPERTIES, Has a thorough knowledge of the Spanish language, Dialling, Management of Men, &c. Age 34.

Address, Minas de Aznalcollar, Provincia de Sevilla, Spain.

NANT-Y-MOCH MINING COMPANY
(LIMITED).

Capital £10,000, in 10,000 Shares of £1 each.

Prospectuses and Shares may be obtained on application to Capt A. FRANCIS, M.E., Goginan, Aberystwith; or from ERNEST W. S. MURRANT, Esq., 8, St. Benét-place, London, E.C

TO PARENTS AND GUARDIANS.

AN ELIGIBLE OPPORTUNITY is now offered for the SETTLEMENT of an ACTIVE YOUNG GENTLEMAN IN CANADA. He will be enabled to obtain his profession as a Solicitor in five, or if he be a Graduate in three years. Cost of living about £150. In the meantime he will have active work, and obtain a knowledge of the Dominion, which is destined to become one of the most prosperous of the Colonies. Premium, £100 sterling.

HERBERT C. JONES,
32, Wellington-street, Toronto. Canada Land and Loan Agency.

Just published.

THE NORTH WALES COAL FIELD:

Being a series of Diagrams showing the Depth, Thickness, and Local Names of the Seams in the principal Collieries of the various districts, with Index, Geological Map, and horizontal sections across the Ruabon, Brymbo, Buckley, and Mostyn districts.

By JOHN BATES GREGORY and JESSE PRICE,
of Hope Station, near Mold, Flintshire.

Price: Mounted on holland, coloured and varnished, and fixed on mahogany rollers, 30s. each; or in book form, 12×9, mounted and coloured, 25s. each.

May be obtained, by order, of all Booksellers, or direct from the MINING JOURNAL Office, 26, Fleet-street, London, E.C., upon remittance of Post Office Order for the amount.

PARIS, BRONZE MEDAL, 1867. ORDER OF THE CROWN OF PRUSSIA. FALMOUTH, SILVER MEDAL, 1867.

A DIPLOMA—HIGHEST OF ALL AWARDS—given by the Geographical Congress, Paris, 1875—M. Favre, Contractor, having exhibited the McKean Drill alone as the MODEL BORING MACHINE for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

THE McKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24·90, 27·60, 24·80, 26·10, 28·30, 27·10, 28·40, 28·70 metres. Total advance of south heading during January was 121·30 metres, or 133 yards.

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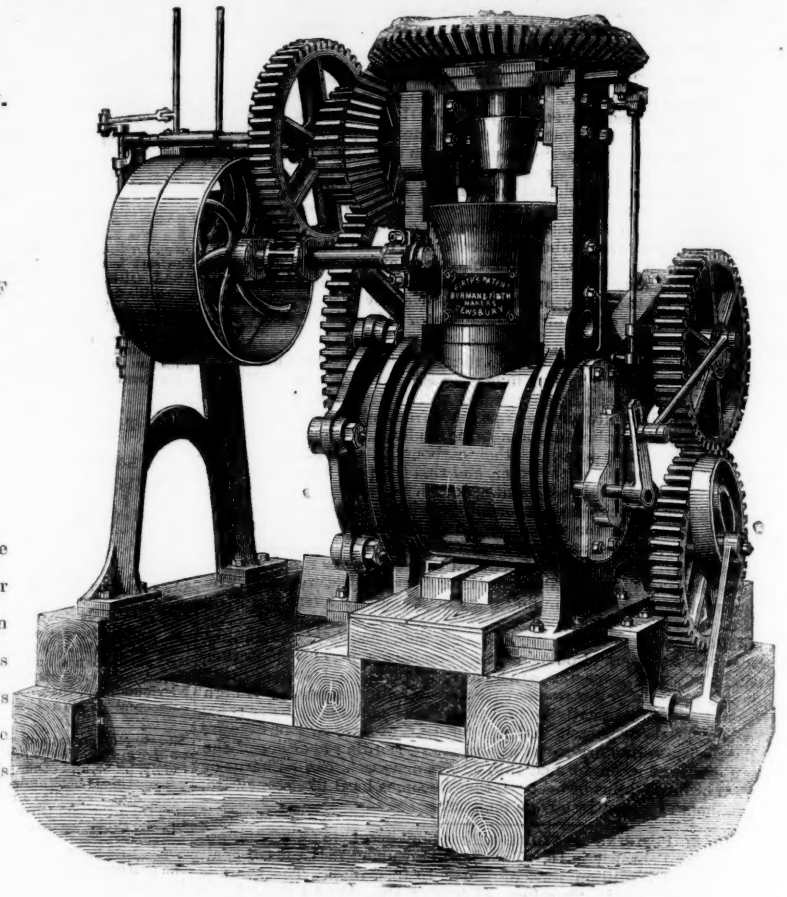

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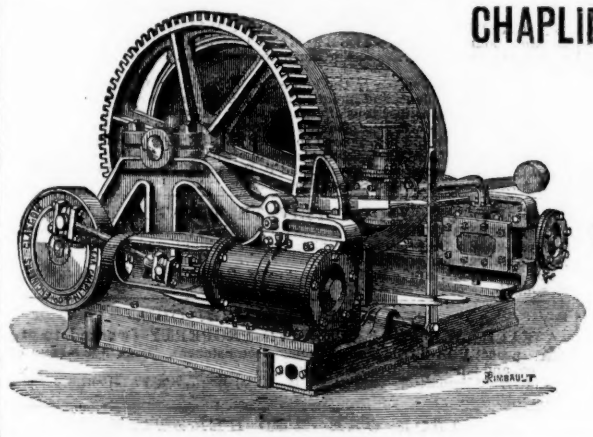

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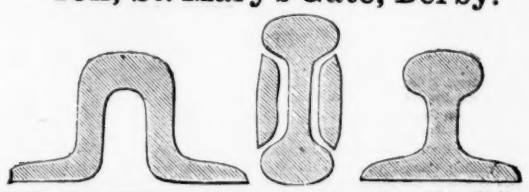

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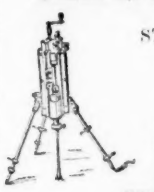

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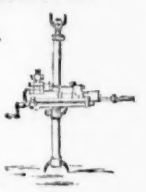

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20000	Grogwinion, *l*, Cardigan*	2 0 0	3¾	3½ 4	0 14 10	0 1 10	Aug. 1878
2800	Isle of Man, *l*, Isle of Man*	25 0 0	—		82 5 0	0 10 0	Feb. 1879
20000	Leadhills,* *l*, Lanarkshire	6 0 0	3¾	3¼ 3¾	0 15 0	0 3 0	Mar. 1878
400	Lisburne,* *l*, Cardiganshire	18 15 0	35	30 35	600 10 0	1 0 0	Mar. 1880
10000	Mellanear, *c*, Hayle*	2 0 0	6	5 5½	0 14 0	0 4 0	Jan. 1880
9000	Minera Mining Co., *l*, Wrexham*	5 0 0	12	11 12	68 9 2	0 4 0	Feb. 1880
20000	Mining Co. of Ireland, *cl*, *c*, *l**	7 0 0	3¾	3½ 3¾	24 0 0	0 2 6	Jan. 1880
5328	North Busy, *t*, *c*, Chacewater	0 5 8	7½	¾ 1	0 3 4	0 0 10	Oct. 1878
11829	North Hendre, *l*, Wales	2 10 0	—	7 7½	3 10 0	0 7 6	Mar. 1880
8063	Ditto	1 0 0	—	4 4½	0 7 0	0 3 0	Mar. 1880
6000	Pennant, *l*, *bar*, North Wales*	5 0 0	3	2¾ 3¼	0 10 0	0 5 0	Mar. 1878
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18000	Pr. Patrick,* *s-l*, (als.12000pf.10 p.c)	1 0 0	3	2⅝ 3	0 16 6	0 1 6	Dec. 1879
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12000	Roman Gravels, *l*, Salop*	7 10 0	11¼	10¼ 10¾	7 16 6	0 5 0	Dec. 1879
4000	Rhydalun,* *l*, Wales	10 0 0	10	10	0 5 0	0 5 0	Feb. 1880
512	South Caradon, *c*, St. Cleer†	1 5 0	140	120 130	746 0 0	1 10 0	Jan. 1880
6123	South Condurrow, *t*, *c*, Camborne†	6 5 6	12	10½ 11½	6 12 0	0 15 0	Jan. 1880
9000	South Darren, *l*, Cardigan*	1 10 0	3½	3 3½	0 2 0	0 2 0	Jan. 1880
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70000	English & Australian,*† *c*, S. Aust.	2 10 0	1¾	1½ 1¾	2 18 9	0 1 0	Mar. 1880
25000	Fortuna, *l*, Spain*†	2 0 0	5¾	5¼ 5¾	7 6 5	0 1 6	Sept. 1879
55000	Frontino & Bolivia, *g*, New Gran.*†	2 0 0	3½	3 3½	0 3 6	0 1 0	Feb. 1879
15000	Linares, *l*, Spain*†	3 0 0	6¾	6 6½	17 14 10	0 2 0	Sept. 1879
10000	Pontgibaud, *s-l*, France†	20 0 0	23	21 23	27 17 6	0 10 9	Dec. 1879
100000	Port Phillip, *g*, Clunes*† (£2 shares)	1 0 0	⅝	⅜ ⅝	1 12 0	0 1 0	Mar. 1879
54000	Richmond Consol., *s*, Nevada*†	5 0 0	13¾	13¼ 13¾	8 4 6	0 7 6	Feb. 1880
40000	Santa Barbara,* *g*, Brazil	0 10 0	2⅝	2⅜ 2⅝	0 8 9	0 1 6	Nov. 1879
120000	Scottish-Australian Mining Co.*†	1 0 0	2¼	1⅞ 2⅛	15 p. cent.		Nov. 1879
80000	Ditto, New	0 10 0	1¼	1 1¼	15 p. cent.		Nov. 1879
32000	Sentein,* *s-l*, *bl*, Ariège, France	1 0 0	—		0 2 0	0 2 0	Jan. 1880
22500	Sierra Buttes, *g*, California*†	2 0 0	1⅞	1⅞ 2⅛	2 0 6	0 1 6	Apr. 1879
40625	Ditto, Plumas Eureka	2 0 0	3	1 1¼	2 7 0	0 3 0	Oct. 1879
£253000	St. John del Rey*† (£5 Stock and multiples dealt in)			245 255	12½ p.c. for half-year,		June 1879
20000	Tolima,* *g*, *s*, Colombia	5 0 0	—		1 3 0	0 4 0	Mar. 1880
25000	Victoria* (London), *g*, Australia	1 0 0	—		0 13 1½	0 0 7½	June 1879
2100	W. Prussian (5500 pref. sh. £10 pd.)	10 0 0	10½	10 10½	2 2 0	0 8 0	Dec. 1879

§ Have made calls since last dividend was paid.

NON-DIVIDEND BRITISH MINES.

Shares.		Paid.	Last wk.	Clos pr.
25600	Aberllyn,* *l*, *bl*, Carnarvon	1 0 0	1¼	1 1¼
12000	Assheton, *l*, Carnarvonshire*	5 0 0	1	¾ 1
11583	Bedford Unit.,* *c*, Tavis [£1 liab.]	0 4 0	¾	¾ 1
30000	Bettws-y-Coed,* *l* (20000 sh. issued)	1 0 0	—	
8000	Blaen Caelan,* *l*, Cardigan	3 0 0	3	3
3939	Blue Hills, *t*, *c*, St. Agnes	4 6 6	4¼	3¾ 4
30000	Bodidris,* *l*, *bl*, Denbighshire	1 0 0	1⅝	1⅜ 1⅝
200	Botallack, *t*, *c*, St. Just‡	126 5 0	90	80 90
10000	British, *s-l*, Wrexham	2 0 0	—	
256	Browngelly, *c*, St. Neot	0 10 0	—	
20000	Bwlch United,* *l* (£1 sh.) Cardigan	0 12 6	3½	3¼ 3½
50000	Cambrian,* *s-l*, *c*, Cardiganshire	2 0 0	2½	2¼ 2½
6000	Carn Camborne, *t*, *c*, Camborne	0 2 6	2¼	2¼ 2½
20000	Carnarvon,* *c*, Carnarvonshire	1 0 0	1⅛	1 1⅛
20000	Cen. Foxdale, *l*, I. of Man* (£2 sh.)	1 5 0	—	
5120	Clementina, *l*, Llanrwst*	1 0 0	1⅛	1 1⅛
25000	Coed Mawr Pool,* *l*, Carnarvon	2 0 0	—	
7500	Combellack,* *t*, Wendron	2 0 0	—	
8000	Combmartin, *s-l*, North Devon	0 8 6	—	
2450	Cook's Kitchen, *t*, Illogan†§	28 4 9	7½	6½ 7
10000	Cornwall Great Consols, Callington.	4 0 0	—	—
6400	Crook Burn,* *l*, Cumberland	0 5 0	¼	¼
14000	Crosswood Mining Lands, *l**	1 0 0	1	½ 1
15000	Cwm Dwyfor,* *c*, *s-l*, Carnarvon	1 0 0	1	⅝
25000	Cwm Pryf*, *l*, Wales	1 0 0	1¼	1 1¼
1280	D'Eresby Consols, *l*, *bl*, Carnarvon	10 0 0	—	
1024	D'Eresby Mountain, *l*, *bl*, Llanrwst.	20 0 0	40	30 40
20000	Denbighshire Consolidated,* *l*	3 0 0	3	2 3
12000	Derwent,* *l*, Durham	4 0 0	4	3½ 4
1000000	Devon,* *c*, *bl*, Tavistk. (120000 iss.)	0 1 0	1s.	1/16
10000	Dubby Syke, *l*, Durham*	0 17 6	⅝	⅝
6144	East Caradon, *c*, St. Cleer‡	3 4 6	4½	3½ 4
4000	East Chiverton, *l*, Perranzabuloe	9 10 3	3	1¾ 1⅞
3000	East Craven Moor,* *l*, Pateley Bdg.	10 0 0	9	8 9
12000	East Crebor, *c*, Tavistock	0 1 0	1	¾ 1
30000	East Florida,* *s-l*, Cardiganshire	1 0 0	—	
10000	East Longstone,* *s-l*, Lezant	1 0 0	—	
21000	East Roman Gravels,* *l*, Salop	0 10 0	⅞	⅝ ⅞
18000	East Van, *l*, Llanidloes*	5 0 0	3	2¾ 2⅞
4096	East Wheal Buller, *t*, *c*, Gwennap	0 10 0	1½	1¼ 1½
1114	East Wheal Lovell, *t*, Helston	10 8 6	2½	1½ 2
30000	Flintshire Great Consols*	1 0 0	1½	1⅜ 1½
6000	Florence,* *s-l*, *bl*, St. Ive	5 0 0	5	5
10000	Fortescue,* *var*, St. Stephens	1 0 0	2	1¾ 2
12500	Frongoch,* *l*, Cardgn (11000 sh.iss.)	2 0 0	6	5 6
3950	Gawton, *c*, Tavistock	4 9 6	1¾	1½ 1¾
150	Glandore Manganese (100*l*. sh.)	60 0 0	—	
14000	Glenroy,* *s-l*, Isle of Man	4 0 0	1¼	1 1¼
20000	Great Dyliffe* (10000 sh. issued)	1 0 0	1¼	1 1¼
20000	Gt. E. Foxdale, *l*, I. of Man (£1 sh.)	0 18 0	—	
12000	Great Holway,* *l*, Flintshire	5 0 0	5	4 5
6000	Great Wh. Eleanor, *t*, North Bovey	2 0 0	2	1¾ 2
20000	Griffin,* *s-l*, Carnarvon	1 0 0	—	
9880	Gunnislake (Clitters), *t*, *c*‡	5 5 0	5½	5 5½
10000	Gwern-y-Mynydd,* *s-l*, Flintshire	4 0 0	5¼	5 5¼
10000	Harehope Gill,* *l*, Durham (£1 sh.)	0 5 0	—	
1200	Hartington Moor,* *carb. l*, Derby	1 1 0	1½	1 1½
6400	Harwood,* *l*, Durham	0 15 0	2s.	2s.
3000	Herodsfoot, *l*, near Liskeard†	1 0 0	3¾	3¾ 4¼
18000	Hingston Down, *c*, Calstock*†	0 7 0	1⅛	1 1¼
6000	Killifreth, *t*, Chacewater	3 5 0	1¼	1 1¼
30000	Lady Ashburton,* *s*, Callington	1 0 0	—	
15000	Lady Bertha, *c*, Tavistock	0 2 6	⅜	¼ ⅜
12000	Ladywell,* *l*, Salop (12000 prf. also)	2 10 0	—	
5000	Lead Era,* *l*, Mold	2 10 0	—	1⅜ 1⅝
2500	Levant, *c*, *t*, St. Just	10 14 6	10½	16 16½
15000	Llandegla,* *l*, Llanarmon	1 0 0	1⅛	1 1⅛
6000	Llansawel,* *l*, Wales	5 0 0	—	
10000	Lomax, *s-l*, Helston	1 0 0	—	
5120	Lovell, *t*, Wendron	0 16 0	1¼	1 1¼
30000	Llanrwst,* *l*, Carnarvon	2 0 0	1½	1 1½
7500	Ditto, 10 per cent. pref.	2 0 0	2¼	2 2¼
9000	Marke Valley, *c*, Linkinhorne‡	5 8 6	2	1¾ 1⅞
1800	Mawston,* *l*, South Wales	1 0 0	1½	1 1½
6000	Medlyn Moor, *t*, Wendron	3 15 10	—	
28000	Mid-Devon,* *c* (& 17000, 3s. 4d. pd.)	0 6 8	—	
8000	Mineral Corporation of Gt. Britain*	10 0 0	13	12 13
8000	Mona,* *c*, Anglesea	5 0 0	15	13 15
10000	Mynydd Gorddu, *l*, Cardigan*	3 0 0	3½	3 3½
12000	Morfa Du, *z*, *g*, *s*, Anglesea*	1 0 0	1⅜	1⅛ 1¼
6144	Mount Carbis, *t*, *c*, Redruth	0 10 0	1⅜	1½ 1¾
4678	New Bronfloyd,* *s-l*, Cardig.(£5 sh.)	3 16 0	—	
12000	New Cathedral,* *c*, *t*, Gwennap	1 0 0	—	
2400	New Cook's Kitchen, *t*, Illogan	7 0 0	7	6½ 7
8000	New Dolcoath, *t*, *c*, Camborne*	3 0 0	—	

NON-DIVIDEND MINES—*continued*.

Shares.		Paid.	Last wk.	Clos pr.
6000	New Kitty, *t*, St. Agnes	0 2 0	1½	1¼ 1½
10000	New Llanfair, *l*, Carmarthen	1 0 0	—	
3000	New Wheal Peevor, *t*, Redruth	0 10 0	4	3½ 4
3500	New Tincroft,* *t*, Lelant	6 0 0	—	
35000	New Wye Valley, *l*, Montgomery.*	1 0 0	1⅝	1¼ 1¾
5000	North Alfred Consols, *c*, Phillack	0 2 0	1	¾ 1
10000	N. D'Eresby Mount.,* *l*, *bl*, Carnarv.	1 0 0	1⅛	⅞ 1⅛
12000	North Herodsfoot, *l*, Liskeard	0 5 0	⅞	½ ¾
2000	North Levant, *t*, *c*, St. Just‡	13 6 0	7	6½ 7
50000	North Molton,* *c*, *mn*, *i*, Devon	1 0 0	—	
6000	North Penstruthal, *t*, *c*, Gwennap	0 10 0	2¼	2 2¼
2936	North Treskerby, *c*, St. Agnes	8 17 10	—	
12000	Pandora,* *l*, Carnarvon	2 0 0	1⅛	⅞ 1
30000	Pant-y-Mwyn,* *l*, Mold	2 0 0	2¼	2 2¼
6000	Parracombe, *s-l*, Devon	0 5 0	—	
45000	Parys Corporation,* *c*, Anglesea	1 0 0	1½	1¼ 1¾
7500	Pateley Bridge, *l*, Yorkshire	1 0 0	1	¾ 1
15000	Ditto (also 7500 sh. not issued)	0 17 0	—	
12000	Pen-yr-Orsedd,* *l*, Flintshire	1 0 0	1¾	1¼ 1¾
5000	Penhalls, *t*, St. Agnes‡	3 17 6	3½	3 3½
15000	Perran Consols, *s-l*, Perranzabuloe	1 0 0	—	
7000	Picton,* *s-l*, Holywell, fully paid	1 0 0	¼	⅛ ¼
6000	Plympton Mining and Arsenic*	1 0 0	1¼	1 1¼
12000	Plynlimmon, *l*, Llanidloes*	2 0 0	6s.	4s. 6s.
10000	Polrose, *t*, Cornwall	0 10 0	2¾	2¼ 2½
10000	Port Nigel,* *s-l*, Carnarvonshire	2 0 0	2⅞	2¼ 2¾
12000	Prince of Wales, *c*, *s*, Calstock	0 7 6	¾	⅝ ¾
12000	Rashleigh, *t*, *c*, St. Blazey	0 5 0	—	
50000	So. Cambrian,* *l*, Cardiganshire	1 0 0	¼	⅛ ¼
30000	South d'Eresby Mountain, *l*	1 0 0	1¼	1 1¼
512	South Dolcoath, *c*, *t*, Redruth	12 5 0	—	
6000	South Penstruthal, *t*, *c*, Gwennap	0 10 0	1¼	½ ¾
5000	So. Prince of Wales,* *s*, *c*, Calstock	1 0 0	1⅛	1 1⅛
6000	South Roskear, *t*, *c*, Camborne	8 5 0	—	
6000	South Tolcarne, *t*, *c*, Camborne	3 14 0	1¼	1 1¼
40000	South Wheal Crebor*, *c*, Tavistock	1 0 0	1¾	1¼ 1¾
2043	South Wheal Crofty, *c*, Illogan	16 7 0	13	11 11½
4000	St. Just United, Cornwall	2 10 0	3	2¾ 3
6000	St. Lawrence, Amal., *l*, Flintshire*.	2 0 0	—	
10000	St. Patrick, *l*, Halkin, Holywell*	1 0 0	⅞	⅝ ⅞
30000	Talybont,* *s-l*, Cardiganshire	1 0 0	—	
40000	Tamar, *s-l*, Bearalston*	1 0 0	1⅝	1¼ 1¾
6400	Teesdale,* *l*, Durham (pref.)	1 0 0	½	¼ ½
10000	Temple, *l*, Cardigan*	1 0 0	—	
5000	Treleigh Wood, *t*, Redruth	6 1 0	—	
12000	Trethellan, *s-l*, Cranstock*	2 0 0	—	
640	Truro,* *l*, Nerquis, Flintshire	10 0 0	—	
10000	Tyn-y-Fron,* *l*, Card. (5000 1*l*. pd.)	0 7 6	⅜	¼ ⅜
10000	Un. Van & Glyn,* *l*, (& 41500 other sh)	2 0 0	1	¾ 1
1000	Vaughan,* *l*, Cardiganshire	10 0 0	—	
18000	Victor,* *l*, Flintshire (£1 share)	0 5 0	—	
12000	West Assheton, *l*, Carnarvon	1 0 0	3	2 2½
6000	West Basset, *c*, Illogan†‡	7 0 4	19	17 18
6000	West Caradon, *c*, St. Cleer	0 3 6	2½	2 2½
3000	W. Craven Moor, *l*, Pateley Brdge*	10 0 0	5	3 5
12000	West Goginan,* Cardiganshire	2 0 0	—	
12000	West Holway, *l*, Flintshire	1 0 0	1 7/16	1⅜ 1½
6000	West Kitty, *t*, St. Agnes	0 4 0	2¼	2 2¼
5000	West Mary Ann,* *l*, Menheniot	1 2 6	1	1¼ 1½
3000	Westminster United, Llanarmon	5 0 0	—	
20000	West Pateley Bridge,* Yorkshire, *l*.	1 0 0	—	
12000	West Phœnix, *t*, *c*, Caradon	0 6 8	2¾	2¼ 2¾
5190	West Poldice, St. Day‡	5 0 0	2¾	2½ 2¾
10000	West Vor, *t*, *c*, *ars-m*, Breage	2 0 0	2	2
2048	West Wheal Frances, *t*, Illogan‡	29 6 3	17	13 15
3000	West Wheal Peevor, *t*, Redruth	1 5 0	9	8 9
12000	West Wye Valley,* *l*, Montgomery.	3 0 0	2	1 2
6000	Wheal Agar, *c*, Illogan‡	13 15 0	7	6 6½
6144	Wheal Basset, *c*, Illogan‡	34 2 6	4½	3¾ 4¼
12000	Wheal Coates*, *t*, St. Agnes	0 10 0	—	
2585	W. Comford, & No. Tres., *c*, Gwennap	2 2 0	5	4½ 5
6000	Wheal Grenville, *t*, Camborne	4 15 0	9	8¼ 8½
12000	Wheal Jewell, *c*, St. Hilary	0 10 0	1⅛	⅞ 1⅛
2048	Wheal Jane, *t*, Kea‡	6 13 10	4½	4¼ 4¾
2000	Wheal Owles, *t*, St. Just‡	7 3 0	7½	7 7½
12000	Wheal Russell, *c*, Tavistock	2 1 6	—	
6000	Wheal Sisters, *t*, Lelant	2 15 0	4½	4½ 5
4096	Wheal Uny, *t*, *c*, Redruth	15 6 0	4½	4 4½
3000	White Cliff,* *l*, Llanrwst	5 0 0	—	
24000	Ystwith,* *l*, Cardigan	1 0 0	1½	1¼ 1¾

bl, blende; *c*, copper; *g*, gold; *l*, lead; *s*, silver; *sl*, slate; *s-l*, silver-lead; *t*, tin; *z*, zinc; *i*, iron; *a*, arsenic.

* Limited Liability Companies; † quoted on the Stock Exchange; ‡ have paid dividends.

NON-DIVIDEND FOREIGN MINES; FOREIGN AND MISCELLANEOUS STOCKS; TRAMWAYS; INSURANCE COMPANIES; GAS, IRON AND COAL, WAGON COMPANIES, &c.

NON-DIVIDEND FOREIGN MINES.

Shares.		Paid.	Clos. pr.
15000	Birdseye Creek, *g*, California*	4 0 0	
30000	Blue Tent, *hyd*, California	5 0 0	
10000	Buena Ventura,* *l*, Spain (£2 sh.)	0 15 0	
15000	Canada,* *g*, Canada	1 0 0	
82500	Canadian, *c*, *sul*,* Canada	4 0 0	2½ 2¾
34433	Cedar Creek, *g*, California*	5 0 0	
15000	Chicago, *s*, Utah*	10 0 0	
49935	Chontales, *g*, *s*, Nicaragua*†	2 0 0	⅛ ¼
75000	Colombian Hydraulic, *g*, Colombia	1 0 0	
65000	Colorado United, *s-l* Colorado*†‡	6 0 0	2⅝ 2⅞
90000	Consolidated Mining	1 0 0	⅞ 1⅛
100000	Don Pedro North del Rey*	1 0 0	⅞ 1⅛
20000	English Australian, *g*, Victoria*	1 0 0	
100000	Exchequer, *g*, *s*, California*†	1 0 0	⅛ ⅜
100000	Frontenac,* *l*, Ontario, Canada	1 0 0	
10000	Hornachos,* *s-l*, Spain	10 0 0	
12000	Hultafall,* *l*, *bl*, Orebro, Sweden	5 0 0	2 2¼
7500	Isabelle, *g*, *s*,* California (£20 sh.)	5 0 0	
50000	Kapanga,* *g*, New Zealand	1 0 0	
100000	Ind. Glenrock,* *g*, Wynaad (fy.pd)	1 0 0	1⅝ 1⅞
100000	I.X.L., *g*, *s*, California*	1 0 0	⅛ ⅜
50000	Javali, *g*, Nicaragua*	2 0 0	⅛ ¼
20000	Last Chance,* *s*, Utah	5 0 0	¼ ½
65000	London and California, *g**†‡	2 0 0	⅜ ⅝
7587	Lusitanian, Portugal*† (fy. pd.)	5 0 0	
9000	Missouri, *l*, pref (fully paid)	10 0 0	10 11
40000	Nava de Jadraque,* *g*, *s*, Spain	1 0 0	
66000	New Quebrada, *c*, Venezuela	5 0 0	3⅝ 3⅞
200000	Nouv. Monde, *g*, Venez. (en com.)	1 0 0	1½ 1¾
3000	Oregon, *g*, Oregon, U.S. (pref. sh.)	4 0 0	
50000	Panulcillo, *c*, Chili*† (£40000 Deb.)	4 0 0	4 4½
80000	Pestarena United, *g*, Italy*†	3 0 0	¼ ⅜
25000	Pitanqui,* *g*, Brazil (in. 6000 £1 pd)	0 10 0	
10000	Placerville, *g*, *q*, California	2 0 0	2⅜ 2⅝
40000	Ravenscliff, *g*, N. Zind; *c*, S. Aust.	0 10 0	
898320	Rio Tinto,* *c*, Huelva, Spain	Stock	91 93
44950	Ditto 7 p. c. Mort. Bonds	20 0 0	20 20½
225000	Ditto shares	10 0 0	10¼ 10¾
100000	Rossa Grande, *g*, Brazil*† (£1 sh.)	1 0 0	⅛ ⅜
25300	Ruby and Dunderberg, *g*, Nevada*	10 0 0	5¼ 5½
200	Ditto (10 per cent. deb. conv.)	50 0 0	
10000	Silver Plume, *s*, Colorado	1 0 0	
00000	So. Indian,* *g*, Madras (fully paid)	1 0 0	1¾ 2
50000	South-East Wynaad, *g*, India	2 0 0	
43174	United Mexican,*†‡ *s*, Mexico	29 2 6	2¼ 2¾
50000	Virneberg, *c*, Rheinbreitb., Ger.*	2 0 0	
15000	Western Andes, *s*, Colombia	5 0 0	
75000	Yorke Peninsula, *c*, So. Australia	1 0 0	¼ ½
54800	Yorke Pen., *c*, South Aust. Pref.	1 0 0	1 1¼

GAS COMPANIES.

Issue.	Shares.		Pd.	Clos. pr.
5000	20	Bahia [L]	all	14 15
40000	5	Bombay [L]	all	5¾ 6¼
10000	5	Ditto, New [L]	4	¼ ¾ pm
29700	Stk	Brentford Consolidated	100	144 148
14000	20	British	all	33 35
550000	Stk	Commercial	100	188 193
20000	20	Continental Union [L]	all	19½ 20½
20000	20	Do. do. New, 1869, 1872	14	1½ ½ dis
10000	20	Do. do. 7 per ct. Preference	all	23½ 24½
23406	10	European [L]	all	18 19
4094850	Stk	Gaslight and Coke, A, Ord.	100	176 178
50000	10	Ditto, 4th issue	all	
50000	10	Ditto, 5th issue	all	16 17
284200	Stk	Do, 4 per cent. Deb. Stock	100	98 101
5000	10	Hong Kong and China	all	15 16
2800000	Stk	Imperial Continental	100	180 182
386500	Stk	London	100	175 180
12000	5	Malta & Mediterranean [L]	all	3¼ 3¾
100000		Metrop. of Melbourne 6 p.c. Deb.		104 106
25000	20	Monte Video [L]	all	13 14
10000	5	Ottoman [L]	all	2 2½
30000	5	Oriental [L]	all	7 7½
27000	20	Phœnix	all	36 37
300000	Stk	Do., New Max. div. 7½ p.ct.	80	115 120
37500	20	Rio de Janeiro [L]	all	25¼ 26½
500000	Stk	South Metropolitan, A	100	199 203
250000	Stk	Ditto, ditto, B	100	

INSURANCE COMPANIES.

Issue.	Shares.		Pd.	Clos. pr.
50000	100	Alliance British and Foreign	11	32½ 33½
10000	100	Ditto, Marine	20	28½ 29½
50000	30	British and Foreign Marine [L]	4	15 15½pm
50000	50	Commercial Union	5	19½ 20 xd
50000	50	Eagle	5	5⅛ 6
25000	20	Globe Marine [L]	11	1½ ½ dis
7500	100	Imperial Life	10	21 23
13453	100	Indemnity Marine	50	101 103
100000	10	Lion Fire [L]	2	2¾ 3¼
49626	20	L'pool & Lond. Globe (£1 annty)	2	14⅞ 15 pm
35862	25	London	12½	62 64
40000	25	London and Lancashire Fire	2½	3¾ 4 pm
50000	20	London and Provincial Marine	—	4⅜ 4⅝
10000	100	Marine	18	83 85
50000	10	Merchants' Marine	2	1¾ 1¼ dis
50000	10	Maritime	2	4½ 4⅝
40000	50	North British and Mercantile	8¾	48 50
30000	100	Northern	5	33 35 pm
40000	25	Ocean Marine	5	2 2½ pm
	—	Phœnix Fire	—	306 310
200000	10	Queen	1	2¼ 2¾pm
100000	10	Railway Passengers	29s.	6½ 7½
200000	5	Rock Life	½	8 8½
50000	10	Sea	2	2¾ 2⅞ pm
125000	10	Scottish Commercial	1	12s. 17s.pm
4000	20	Standard Marine	4	3 5/16 3 7/16 pm
10000	20	Thames and Mersey Marine [L]	2	7 7¼ pm
40640	20	Union Marine, Liverpool [L]	5	3½ 4 pm
50000	20	Universal Marine [L]	5	7½ 7¾pm

BANKS.

100000	10	Agra [L]	all	10½ 11
80000	20	Anglo-Egyptian Banking [L]	all	21½ 22½
30000	40	Bank of Australasia	all	75 77
12500	20	Bank of British Columbia	all	17½ 18½
20600	50	Bank of British North America	all	54 56
10000	25	Bank of Egypt	all	28 30
50000	20	Bank of New South Wales	all	56 58
100000	10	Bank of New Zealand	all	22 23
25000	25	Bank of South Australia	all	42½ 43½
20000	50	Bank of Victoria	25	35 37
40000	20	Chartrd. of Ind., Aust., & China	all	22½ 23½
30000	25	Ch. Merc. of Ind., Lond., China	all	21½ 22½
20000	100	Colonial	30	53 55
50000	20	English Bk. of Rio de Janeiro [L]	10	¼ ¾ pm
60000	25	London and River Plate [L]	10	1¼ 1¾ pm
50000	10	London and San Francisco [L]	all	7¾ 8¼
50000	20	London Chartered of Australia	all	24½ 25½
100000	11	National Bank of N. Zealand [L]	3½	½ dis par
60000	25	Oriental Bank Corporation	all	22 23
12500	10	Queensland National [L]	5	7 7½
34000	100	Stndrd. of British So. Africa [L]	25	21 22 pm
50000	25	Union of Australia	all	60 61

FOREIGN AND MISCELLANEOUS STOCKS.

	Closing prices.
Argentine, 1868, 6 per cent.	87 89
Bolivia, 6 per cent. Bond Com. Cert.	45½ 46
Brazilian, 1865, 5 per cent.	94 96
Chilian, 1866, 7 per cent.	93 95
City of Melbourne, 5 per cent., 1896-1907	106 108
City of Ottawa, 6 per cent. Sterling	107 109
City of Providence, 5 per cent. coupon bonds	103 105
City of Quebec 6 p. cent. Con. Fnd. Stg Loan	106 108
City of Toronto, 6 p. ct. Stlng. Bnds, 1897-1904	111 113
Egyptian Government pref.	86½ 87
Ditto, Unified Debt	56¾ 57¼
Ditto, 7 per cent. V.M.L.	79 81
Ditto, 9 per cent. guaranteed	84 86
Ditto, K. Daira Sanieh	67 68
Foreign and Colonial Gov. Trust, preferred	106 108
Ditto, 5 per cent., deferred	102 104
Peruvian, 1870, 6 per cent.	19 19¾
Ditto, 1872, 5 per cent.	17¼ 17¾
Russian, 5½ per cent. L. Mort.	—
Spanish, Quicksilver, Mort. 5 per cent.	100 102
United States Mort. 6 per cent.	104 106

IRON AND COAL COMPANIES.

Shares.	Company.	Paid.	Price.
£100	Abbot, John, and Co [L]	£ 75 0	12½ 12 dis
15	Albion Steel and Wire Co. [L]	14 0	— —
5	Alltami Colliery Co. [L]	5 0	3 4
100	Ashbury Co. [L]	90 0	49 48 dis
3	Bagnall, John, and Sons [L]	3 0	2¾ 3
10	Benhar Coal Co. [L]	10 0	2¾ 3
50	Bilbao Iron Co. [L]	50 0	29½ 30
50	Bilson & Crump Mdw Coll [L]	10 0	—
100	Bolckow, Vaughan, & Co. [L] A	60 0	29½ 30 pm
50	Brown, Bailey, and Dixon [L]	40 0	14 13 dis
100	Brown, John, and Co. [L]	70 0	5¾ 5¼ dis
3	Cakemore, Cseway. Grn. ord. sh.	3 0	—
3	Ditto (7½ per cent. pref.)	3 0	—
100	Cammell and Co. [L]	80 0	2 1½ dis
20	Cannock & Huntington Coal [L]	10 0	9¾ 9¼ dis
10	Central Swedish Iron & Stl. [L]	10 0	1 1½
5	Chapel House Colliery	5 0	—
50	Charlton Iron Co. [L]	50 0	3 4
50	Chatterley Iron Co. [L]	50 0	14 15
10	Chillington Iron Co. [L]	10 0	4¾ 5
10	Consett Iron Co. [L]	7 10	16¾ 17¼ pm
1	Consett Spanish Ore [L]	1 0	5/16 7/16 pm
50	Cooke, William, and Co. [L]	45 7	30 28 dis
20	Darlington Iron Co. [L]	15 0	6 5½ dis
50	Davy Brothers [L]	22 10	4 4¼ pm
23	Ebbw Vale Co. [L]	20 0	10 9¾ dis
100	Fox, Samuel, and Co. [L]	80 0	—
10	Genl. Mining Ass. [L] (1*l*. rtd.)	9 0	4¼ 4¾
15	Hopkins, Gilkes, and Co. [L]	15 0	2¾ 3¼
50	Knowles, Andrew, and Co. [L]	22 0	8 7¾ dis
10	Llay Hall Coal, Iron, &c. [L]—	10 0	—
50	Llynvi, Ogmore, & Tondu [L]	50 0	—
10	Lydney & Wigpool Iron Ore [L]	9 5	9 8 dis
10	Marbella Iron Ore Co. [L]	10 0	4½ 4⅝
10	Midland Iron Co. [L]	5 0	3 3½ pm
10	Monkland Iron & Coal Co. [L]	10 0	4 4¼
4	Mwyndy Iron Ore [L]	3 15	1⅜ 1⅛ dis
100	Nant-y-Glo & Blaina (8 p.c. prf.)	100 0	33 35
3	Nerbudda Coal and Iron [L]	2 0	1¾ 1½ dis
10	Newport Abercarn Coal Co. [L]	10 0	6¾ 7¼
10	Northmptn. Coal, Iron, &c. [L]	8 0	—
10	Northfield Iron Co. [L]	8 10	1 ⅞ dis
35	Palmer's Shipbldg. & Iron [L]	35 0	6 5½ dis
100	Parkgate Iron Co. [L]	65 0	13 14 pm
20	Patent Shaft and Axletree [L]	10	3 2 dis
20	Pelsall Coal and Iron [L]	17 10	3½ 3 dis
50	Rhymney Iron Co. [L]	50 0	29 31
10	Sandwell Park Colliery Co. [L]	10 0	18¾ 19¼ x d
100	Shotts Iron Co. [L]	100 0	85 90
100	Sheepbridge Iron and Coal [L]	80 0	10½ 10 dis
50	Silkstone & Dodw. Cl. & Iron [L]	45 0	30 27 dis
50	Somorrostro Iron Co. [L]	50 0	—
100	Staveley Iron and Coal Co. [L]	60 0	28½ 29 pm
100	Ditto ditto B	10 0	4½ 4¾ pm
50	Tredegar Iron and Coal, A [L]	26 0	½ dis par
25	Ditto ditto B	25 0	26 26½
20	Ulverston Mining Co. [L]	16 0	10¼ 9¾ dis
10	Vancouver Coal [L]	6 0	2½ 1½ dis
100	Vickers, Sons, and Co. [L]	100 0	18 20 pm
25	W. Cumberland Iron & Steel [L]	20 0	6½ 5½ dis

WAGON COMPANIES.

Shares.		Pd.	Clos. pr.
10	Birmingham Wagon Co. [L]	£10 0	15¼ 15½
10	Ditto 2nd issue	6 0	2 2¼ pm
10	Ditto pref., 6 per cent.	10 0	10¾ 11¼
20	British Wagon Co. [L]	10 0	½ ¾ pm
10	Gloucester [L]	10 0	9¾ 10¼
10	Ditto 5th issue	5 0	⅛ dis ⅛ pm
10	Met. Rail. Car. & Wagon Co. [L]	5 0	3½ 3¾ pm
5	Ditto pref., 6 per cent.	5 0	¼ ⅜ pm
10	Midland Rail. Car. & Wag. [L]	10 0	11 11½
10	Ditto pref., 6 per cent.	1 0	par ⅛ pm
20	North Central Wagon Co.	20 0	—
5	Rail. Car. [L] Oldbury	5 0	—
5	Ditto pref., 6 per cent.	5 0	4¾ 5
20	Sheffield Wagon Co. [L]	15 0	⅞ ⅝ dis
10	Swansea Wagon Co. [L]	10 0	3¼ 3¾

TRAMWAYS.

Issue.	Shares.		Pd.	Clos. pr.
40000	5	Anglo-Argentine [L]	all	4⅛ 4⅜
10000	10	Barcelona [L]	all	9¾ 10¼
7140	10	Belfast Street Tramways	all	7½ 8½
3050	10	Birkenhead, Ordinary	all	6 6½
3000	10	Ditto, 6 per cent. Preference	all	10¼ 10¾ xd
9290	10	Bristol [L]	7½	8¾ 9¼
25000	10	Bordeaux Tram & Omni. [L]	all	10 10½
3200	10	Chester [L]	all	9¼ 10
24000	10	Dublin	all	14¾ 15¼
14690	10	Edinburgh Street Tramways	all	14¼ 14¾
35000	10	Glasgow Tramway & Omni. [L]	9	12½ 13
10000	10	Hughes Loco. and Tram. works	all	4 6
7500	10	Hull Street Tramways	all	10½ 11½
7500	10	Imperial [L]	all	8 9
34000	10	Liverpool Unit. Tram & Om. [L]	all	11½ 12
25000	10	London [L]	all	11½ 11¾
15000	10	London Street Tramways	all	11 11½
60000	10	North Metropolitan	all	15¼ 15¾
8000	10	Nottingham and District [L]	all	9½ 10
15947	10	Provincial [L]	all	10¾ 11¼
6000	10	Sheffield	all	8 9
5000	10	Southampton	all	10 10½
6000	10	Sunderland [L]	all	8 9
10000	10	Swansea	all	5 6
12000	10	Tramways of France [L]	all	9 9¼ xd
16500	10	Tramways of Germany [L]	all	10 10½ xd
20000	5	Tramways and Gen. Works [L]	al.	6½ 7
40000	5	Tramways Union [L]	all	6⅝ 6⅞
25000	10	Vale of Clyde	6	4⅝ 4⅞
7200	10	Wolverhampton [L]	all	10 10½

TELEGRAPH COMPANIES

Shares.		Pd.	Clos. pr.
Stk.	Anglo-American	100 0	59¾ 60¼
10	Brazilian Submarine	10 0	7¾ 8
20	Direct United States Cable	20 0	11 11¼
10	Eastern	10 0	8⅞ 9⅛
10	East. Exten. Austr. and China	10 0	8⅞ 9⅛
10	Great Northern	10 0	9⅝ 9⅞
25	Indo-European	25 0	24 26
10	Mediterranean Extension	10 0	3 3½
8	Reuters	8 0	10 11
Stk.	Submarine	100 0	230 240
10	West India and Panama	10 0	1⅝ 1⅞
20	Western and Brazilian	20 0	7 7¼
$1000	West. Union, 7 p.c. Mort. Bonds	$1000	120 125

MISCELLANEOUS

25	Australian Agricultural	21 10	79 82
10	Brighton Aquarium [L]	10 0	6 6½
Stk.	Cent. of New Jersey Con. Mort.	100 0	106 108
25	City of London Real Property	12 0	2¾ 3¼ pm
5	Diamond Rock Boring	4 10	3¾ 3¼ dis
16	Fore Street Warehouse [L]	14 0	8 9 pm
15	Foster, Porter, and Co. [L]	10 10	16½ 17½
17	Hudson's Bay Company	17 0	16½ 16¾
Stk.	Illinois & St. Louis Brge, 2nd Mt.	100 0	78 82
7½	Imperial Credit [L]	7 10	7⅜ 7⅝
Stk.	Lehigh Val. Con. Mort., A, 7 p.c.	100 0	105 107
10	Milner's Safe [L]	10 0	8 9
25	National Discount [L]	5 0	10¼ 10¾
Stk.	N. Cent. Rail. Mort., 6 per cent.	10 0	101 103
10	Pawson and Co. [L]	6 0	½ dis par
50	Peninsular and Oriental Steam	50 0	53 55
Stk.	Pennsyl. Gen. Mort., 6 p.c. 1880	100 0	115 117
Stk.	Do. Con. Sink. Fund, 6 p.c. 1905	100 0	112 113
Stk.	Scottish Australian Invt. Co.	100 0	185 195
Stk.	Ditto New Ordinary	50 0	96 99
Stk.	Ditto 6 per c. guar. pref.	100 0	127 132
Stk.	Ditto 5 per c. guar. pref.	100 0	103 105
12	Telegraph Const. & Maint. [L]	12 0	32⅛ 33
5	Ditto, 2nd Bonus, 3 per cent.	5 0	2⅞ 3⅛
10	Tharsis Sulphur & Copper Co.	10 0	30 31
Stk.	Union Pacific Land Gt., 1st Mt.	100 0	112 114
Stk.	Union Pacific Ry., 1st Mort.	100 0	115 116

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